

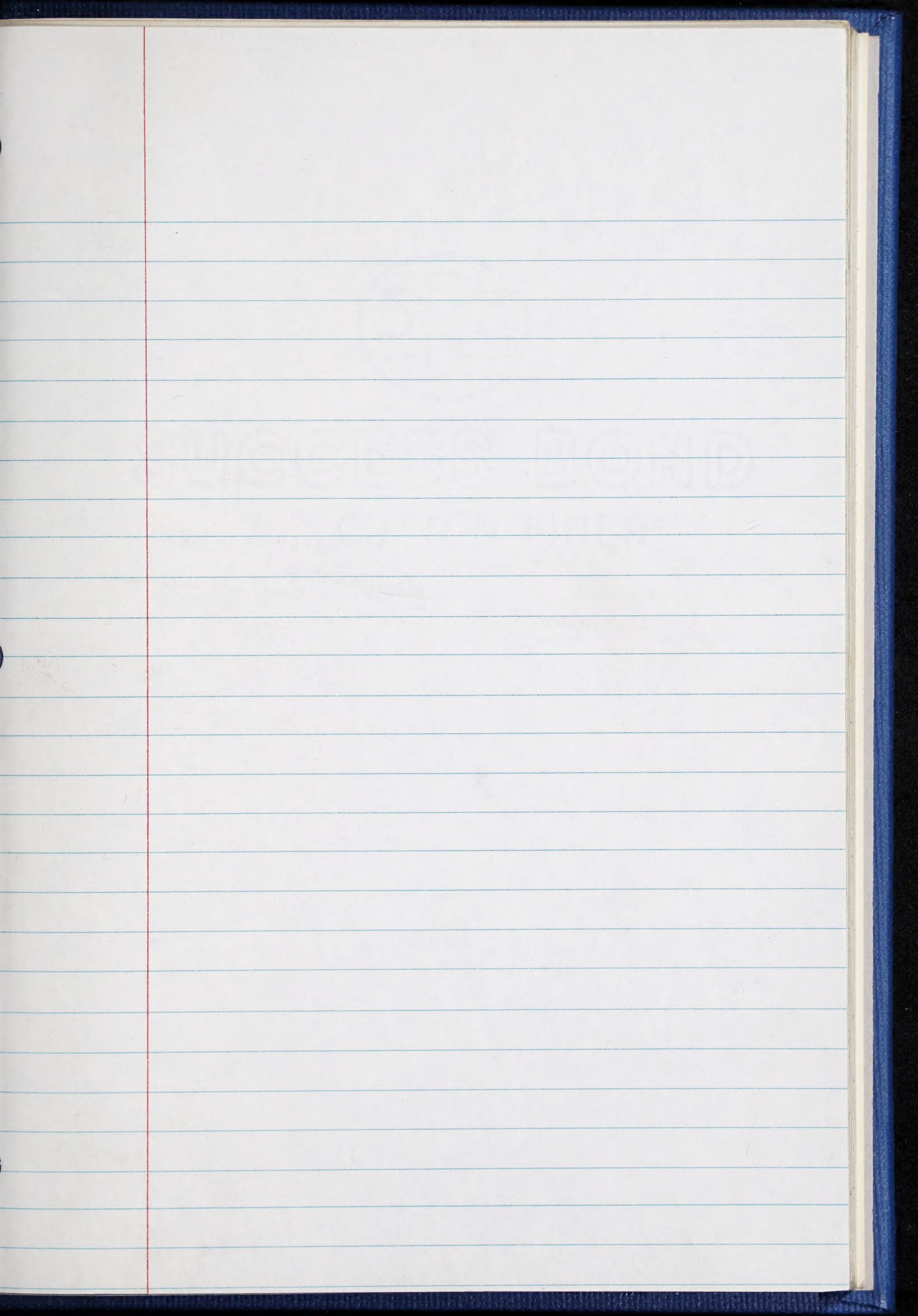


FILE
NOT

BOOK

121

NOTE



BOWMAN, ROBERT I.

New Mexico, Rio Arriba Co., Sandoval Co.,
Santa Fe Co., and Socorro Co.

August 11 - September 15, 1952

Catalogue nos. 100-262

Journal

Catalogue

Bowman
1952

Catalogue

1.

11.5 mi. NE Chama

10,000 ft. Rio Arriba Co., New Mexico.

August 11, 1952

100. ad. ♀ *Myiochanes richardsoni richardsoni* 5+ corp. lut., fatty; 13.0 gm.
cloacal temp. 39.2°C (alive) at 7:40 A.M.
101. im. ♂ *Junco caniceps* fatty; cloacal temp. 40.0°C (10 sec. dead) ^{7:20 A.M.} 17.5 gm.
- discarded 102. im. *Dendroica auduboni*. cloacal temp. 40.3°C (alive) 8:15 a.m. 12.5 gm.
103. ♀ (?) *Sorex palustris* 13.5-6.7-1.9-Nore 10.2 gm.
104. ad ♂ *Clethrionomys gapperi* 12-3.1-1.6-1.3 ^N (1 mm long) testes enlarg. 16.1 gm.
105. im ♂ *Peromyscus maniculatus* 14.5-5.5-1.9-1.8 ^N 19.1 gm.
106. ad ♀ *Lepus townsendi* ^{Not?} ~~5.0~~ 5.0-13.8-7.8 ^N Lactating. 1500 Kgm.

August 12, 1952

107. im ? *Zapus* 20-12.5-3.0-1.4 ^N fatty 12.5 gm.
108. ad ♂ *Clethrionomys gapperi* 12.3-2.8-1.5-1.3 ^N testes large (7.5 mm) 15.3 gm.

August 13, 1952

- 109 ad ♂ *Clethrionomys gapperi* 13.5-3.5-1.8-1.4 ^N testis 1.2 cm. 23.7 gm
- 110 ♀ *Eutamias* 20.7-9.2-3.0-1.6 ^N 47.5 gm.

August 14, 1952

111. ad ♂ *Junco caniceps* 19.7 gm.
112. im. ♂ *Sialia currucoides* 29.5 gm.
- 113 ad. ♀ *Peromyscus maniculatus* 14.5-6.2-1.9-1.6 ^N 16.8 gm.

August 15, 1952

- 114 im ♀ *Zapus* 21.4-13.5-3.1-1.5 ^N 19 gm
- 115 ♂ (im?) *Nuttallornis mesoleucus* much fat on skin (back espec.) 33.2 gm.
- 116 im. ♂ *Junco caniceps* —

117 *Necturus*

August 16, 1952

- 118 ~~Adelotha~~ ^{im.} *Euphagus cyanocephalus* 58.3 gm.
119. ♀ ad *Poecetes gramineus* 25.5 gm
120. im ? *Sphyrapicus thyroideus* wt ?

Bowman
1952

Catalogue

2.

11.5 mi. NE Chama, 10,000 ft., Rio Arriba Co., New Mexico.

August 17, 1952

- 121 ♂ ad. 11-2.4-1.8-1.9^N very fat. (testis 7.0 mm) 18.8 gm.
122. ♂ *Peromyscus maniculatus* 14.1-6.0-1.9-1.8^N 17.0 gm

3 mi SW Tres Piedras, 9000 ft., Rio Arriba Co., New Mexico

August 20, 1952

- 123 ♀ ad *Chloroceryle* 26.3 gm.
124 ? ad *Ceryle alcyon* very fat. 9.0 gm.
125 im ♂ *Vireo gilvus* 12.3 gm.
126. ad ♀ *Sitta pygmaea* little fat 9.7 gm.
skel. only.
skel. only 127. im ♂ *Sitta pygmaea* no fat —

August 21, 1952

128. ♂ im *Vireo solitarius* 16.7 gm
129 ♂ im *Empidonax wrightii* 12.5 gm
130. ad ♂ *Dendroica graciae* (very fat) ?
131 im ♂ *Sialia mexicana* 26.1 gm
132 ♂ ad *Sitta carolinensis* 18.0 gm
skel. only.
133 ad ♀ *Sitta pygmaea* 9.2 gm
134. ♂ *Sphyrapicus thyroideus* (very fat) 48.7 gm
135. *Phrynosoma*
skel. only.
136. ? *Vireo solitarius* 15 gm
137 ad ♀ *Peromyscus* (lactating) 16.3-7.0-~~2.0~~^{1.9}-2.0^N 22.9 gm

August 22, 1952

138. ♂ im *Wilsonia pusilla* (very fat) 8.2 gm.
139 ad ♂ *Dendroica graciae* (little fat) 9.8 gm
140 ? im *Dendroica auduboni* 12.0 gm.
141 ad ♀ *Tachycineta thalassina* 13.0 gm

Bowman
1952

Catalogue

3.

3 mi. SW Tres Piedras, 9000 ft., Rio Arriba Co., New Mexico

August 23.

- ✓ 142. ♂ im. *Hylocichla* 32.9 gm.
✓ 143. ♀ im. *Troglodytes aëdon* 11.9 gm.
✓ 144. ? ad. *Spinus pinus* 12.5 gm.

August 24.

- ✓ 145. ♂ ad. *Dendroica townsendi* (very fat.) 9.3 gm.
EXCH. COLL. ✓ 146. ? ad. *Dendroica townsendi* (some fat) 8.6 gm.
✓ 147. ♂ ad. *Dendroica townsendi* (very fat) 9.6 gm.
✓ 148. im ♂ *Dendroica auduboni* (little fat) 13.1 gm.
✓ 149. ♀ im. *Sitta carolinensis* (no fat) 18.4 gm.
✓ 150. ? im. *Wilsonia pusilla* (very fat) 8.0 gm.
discarded
✓ 151. im. *Dendroica auduboni* 12.4 gm.
✓ 152. ♂ ad. *Junco caniceps* (little fat) 17.5 gm.

August 25

- ✓ 153. ♂ *Sitta pygmaea* (fat on neck + around furculum) 10.8 gm.
skel. only
✓ 154. ♂ *Sitta pygmaea* (little fat.) 10.2 gm.
skel. only - discarded, skull cracked
✓ 155. *Sitta pygmaea* 10.7 gm.
156. ♂ im. *Dendroica auduboni* (little fat) 11.1 gm.
skel. only
✓ 157. ♀ *Sitta pygmaea* (fatty around furculum) 10.7 gm.
skel. only
✓ 158. ♂ *Sitta pygmaea* (fatty around furculum) 10.0 gm.

Jemez Cr., 6 mi. NW Bland, 8500 ft., Sandoval Co., New Mexico

Aug. 27.

- ~~159~~
✓ 159. ad. *Ambystoma tigrinum* (animal escaped)
✓ 160. ♀ ad. *Sorex* sp. fatty on shoulders 9.4-4.4-1.1-0.8^N 3.9 gm.
✓ 161. ♂ ad. *Microtus* sp. (many testes on ear) 18.7-5.5-2.1-1.5^N 54.0 gm.
✓ 162. *Rana* sp.
✓ 163. *Plethodon neomexicanus*

Bowman
1952

Catalogue

4.

Temey Cr., 6 mi. NW Bland, 8500 ft., Sandoval Co., New Mexico

August 27.

164. ♀ ad. *Microtus* sp. (5 emb., 1.5 mm.) 17.4-5.5-2.0-1.4^N 42.5 gm.
165. ♂ ad. *Microtus* sp. 18.5-5.5-2.0-1.4^N 48 gm.
166. ♀ ad. *Peromyscus* sp. (5 emb., 1.7 mm.) 17.5-7.8-1.9-1.9^N 31.7 gm.
167. ♀ ad. *Peromyscus maniculatus* 16.7-7.0-1.9-1.6^N 20.7 gm.
168. ♀ ad. *Peromyscus maniculatus* 14.5-5.8-1.9-1.9^N 20.0 gm.
discarded
169. ♂ im. Ruby-crowned Kinglet 6.1 gm.

August 28.

170. ♀ ad. *Peromyscus* sp. 16.5-7.0-1.9-1.9^N 25.0 gm.
171. ♂ ad. *Peromyscus* sp. 16.0-6.5-2.1-1.9^N 20.0 gm.
172. ♂ *Peromyscus* sp. 14.0-5.9-1.9-1.9^N 16.1 gm.
173. ♂ *Rana* sp.
174. *Thamnophis* sp.
175. *Rana* sp.
176. *Rana* sp.
177. *Thamnophis* sp.

6 mi. S Bernalillo, 5500 ft., Sandoval Co., New Mexico

August 30.

178. (173) *Scophiopus* sp.
179. (174) *Scophiopus* sp.
180. ♀ ad. *Otus asio* (shot by W.C. Russell) 129.1 gm.

August 31.

181. ♂ ad. *Perognathus* sp. (fleuris?) 10.5-5.1-1.5-0.6^N 6.8 gm.
182. ♀ *Onychomys* sp. 11.3-4.2-2.0-1.6^N 16.6 gm.
183. ♀ im. *Vermivora virginiae* (very fat on feather tracts) 9.0 gm.
184. (179) *Eumeces* sp.
185. ? im. *Vermivora virginiae* (little fat) 8.5 gm.

Cowman
1952.

Catalogue

5.

6 mi. S Bernalillo, 5500 ft., Sandoval Co., New Mexico.

August 31.

- discarded
186. ♂ ad. *Dendroica aestiva* (very fat) 10.0 gm.
187. ♀ ad. *Wilsonia pusilla* (very fat) 7.7 gm.
188. *Scaphiopus* sp.
189. *Scaphiopus* sp.
190. *Scaphiopus* sp.
191. *Scaphiopus* sp.
192. ♂ ad. *Vireo solitarius* (little fat) 16.3 gm.
193. ♂ im. *Sitta carolinensis* 18.2 gm.

September 1

194. ♂ ad. *Otocoris alpestris* (some fat) 35.5 gm.
195. ? ad. *Perognathus flavus* (?) (no measurements) 6.7 gm.
196. *Scaphiopus* sp.
197. *Scaphiopus* sp.
198. *Scaphiopus* sp.

6 mi. E Truchas, 10,000 ft., ^{Rio Arriba Co.} ~~Fa~~ Co., New Mexico

September 4.

199. ? *Sorex* sp. 9.2-3.5-1.1-0.8^N 3.4 gm.
200. ♀ ad. *Microtus* sp. (much mammary tissue) 16.2-5.1-1.9-1.5^N 39.4 gm.
(actually taken on Sept. 3, 1952 -- see p. 37 of Journal)
201. ♀ ad. *Sciurus aberti* (much mammary tissue) 48-21.6-7.0-4.3^N 1.5 lb.
203. ♀ *Eutamias* sp. 20.7-9.2-3.0-1.7^N 52.5 gm.
204. ♂ ad. *Corthylio calendula* 5.9 gm.
205. ♂ im. *Oporornis tolmiei* not taken.
206. ♂ im *Wilsonia pusilla* (very fat) 7.4 gm.
207. ♂ im. *Troglodytes aedon*. 10.5 gm.

Bowman
1952

Catalogue

6.

6 mi. East Truchas, 10,000 ft., Rio Arriba Co., New Mexico

September 5.

208. ♀ ad. *Microtus longicaudus* 15.0-4.8-2.0-1.5^N (well develop. maxillary glands) 38 gms.
209 ♂ *Phenacomys* sp. 10.1-2.0-1.6-1.1^N 16.1 gm.
210 ♂ ad *Wilsonia pusilla* very fat. 8.1 gm
211 ♂ ad. *Cyanocitta stelleri* 108.2 gm
212 ♂ im. *Junco caniceps* 19.1 gm
213 ♂ *Eutamias* sp. 19.7-8.5-3.2-1.6^N 37.7 gm
214 ♀ *Tamiasciurus* sp. 29.5-12.2-4.5-2.4^N 209.1 gm.

September 6.

- 215 ♀ ad. *Microtus* sp. (5 emb. - 1.4 mm.) ?-5.8-2.0-1.3^N 49.4 gm
216 ♀ ad. *Dendroica auduboni*. (extremely fat) 14.3 gm.
217 ♂ im. *Junco caniceps*. 20.4 gm
218 ♀ *Sphyrapicus thyroideus* 48.2 gm
219 ♂ *Sphyrapicus varius* 47.7 gm.
220 ♂ *Wilsonia pusilla*. 8.2 gm
221 ♀ ad. *Junco caniceps* 19.3 gm.

September 7.

- 222 ♀ im. *Junco caniceps*. 20. gms.
223 ♂ ad. *Parus gambeli* ?
discarded 224 ^{skel. only.} *Junco caniceps* (skull broken) 20 gm.

N. slope Truchas PK., 11,000 ft., Rio Arriba Co., New Mexico.

222

September 7

- 225 ♀ ad. *Dendroapus obscurus* (shot by O.P. Pearson) 1.8 lbs

6 mi. E Truchas, 10,000 ft., Rio Arriba Co., New Mexico.

September 8 ^{to}

- discarded 226 ♂ *Wilsonia pusilla* (skin badly) 8.5 gm.
227 ♂ *Citellus lateralis* (extremely fat) 188.5 gm.
228 ♂ im. *Vireo solitarius* (quite fat) 18.0 gm

Bowman
1952

Catalogue

7.

6 mi. E Truchas, 10,000 ft., Rio Arriba Co., New Mexico

September 8.

229 ♂ *Dryobates villosus* 62.2 gm.

16 mi. NE Pogoague, 8750 ft., Santa Fe Co., New Mexico

September 9.

230 ♂ *Microtus longicaudus* 16.6-5.8-2.0-1.3^N 27 gm.

231 ♂ im. *Hylocichla* sp. 30 gm.

232 ♂ im. *Vireo gilvus* 12.1 gm.

233 ♂ ad. *Sitta canadensis* 18.2 gm.

234 ♂ *Empidonax difficilis* very fat. 12.2 gm.

235 ♀ ad. *Dryobates villosus* large ovary 60.3 gm.

236 ♀ im. *Hylocichla* sp. 31.7 gm.

discarded
237 ? im. *Hylocichla* sp. 29.3 gm.

September 10.

238 ♂ im. *Corthylio calendula* 6.8 gm.

239 ad. ? *Certhia familiaris* 8.1 gm.

September 11.

240 ♀ ad. *Tamiasciurus fremonti* 32.6-11-4.8-2.5^N 260 gm.

241 ♂ ad. *Junco caniceps* 19.3 gm.

242 ♂ ad. *Junco caniceps* 18.9 gm.

243 ? im. *Junco caniceps* 18.0 gm.

September 12.

245 ♀ *Tamiasciurus fremonti* 26.0-10.8-4.5-2.4^N 122.8 gm.

246 ♂ *Eutamias* sp. 22-10-3.5-1.9^N 72.2 gm.

247 ? *Sorex* sp. 10-4.2-1.3-0.3^N 4.4 gm.

248 ♂ im. *Certhia familiaris* 8.0 gm.

249 ♂ *Sphyrapicus varius* very fat. 48.2 gm.

250 ♂ *Sphyrapicus thyroideus* 40.8 gm.

Bowman
1952

8.

Catalogue.

1 mi. S Bernardo, 5100 ft., Socorro Co., New Mexico

September 13

251. *Thamnophis* sp.

252. *Rana* sp.

253. *Rana* sp.

September 14.

254 ♂ *Oryzomys hispidus*. 22.4-10.2-2.8-1.6^N 66.3 gm.

255 ? ad. *Spiella passerina breweri* 10.7 gm

256. ♂ im. *Oporornis tolmiei* very fat. 12.2 gm.

257. ♀ im. *Chondestes grammacus* very fat. 27.0 gm

258 *Rana*

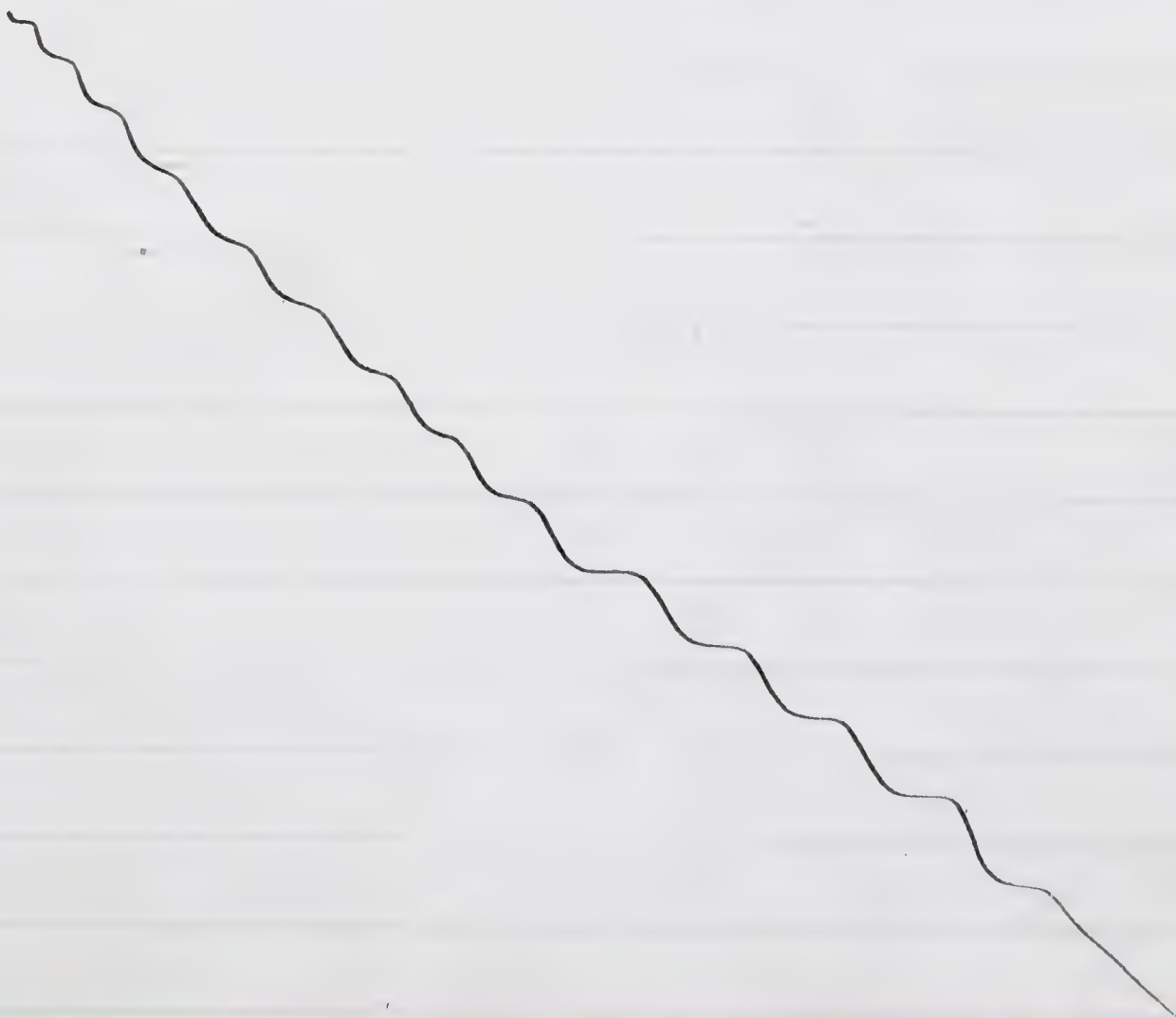
259 *Scophiopus*

260 *Scophiopus*

261 *Scophiopus*

September 15

262 ♂ ad. *Reithrodontomys*. (testis 10 mm) 14.2-7.3-1.8-1.6^N 13.2 gm



Journal

Bowman
1952

Journal

1.

Aug. 11. 11.5 miles NE Chama, 10,000 ft., Rio Arriba Co., San Juan Mts., New Mexico. The following is a brief resumé of the happenings during the last 8 days. The MVZ party, consisting of Ward Russell, Jerry Russell, Stuart Landry, and myself, left Berkeley on Aug. 4 about 5:30 a.m. Both MVZ panel trucks were taken. First night camped 80 miles W Needles, Calif. on the desert. Temp. that night well up in estimated 80°F. Slight cooling at sunrise. Camped on the outskirts of Gallup, New Mexico. Slight rain that night. On the morning of Aug. 6th we crashed the '47 Chev. truck at San Fideo, New Mexico. Stuart Landry was driving when accident occurred. (Landry was not in possession of a valid driver's license). I was injured slightly and taken by ambulance to Grants Hospital, in Grants, New Mexico. Here I remained until the morning of Aug. 8. During this 2 day interim, the remainder of the party attended to repairs of truck, and storage of surplus equipment at the University of New Mexico in Albuquerque. On leaving Grants, N. Mex. on Aug. 8, we drove (4 in cab of '51 truck) to Albuquerque where we camped on the desert east of town. On Aug. 9, we remained in Albuquerque during a.m. for shopping and awaiting estimate of repairs on truck (\$750). In afternoon we drove to Santa Fe where we picked up mail and obtained directions on camping localities in the high country in Northern New Mexico. We made camp at Brayos Lodge, 6 mi E. Parkview, at about 8000 ft. On the morning of Aug. 10, we surveyed the immediate vicinity of camp. The dominant tree here is yellow pine. In an hour of hiking around camp, saw or/and heard the following animals: nighthawk (3+); broad-tailed

Bowman
1952

2.

Journal

11.5 mi. NE Chama, 10,000 ft., Rio Arriba Co., San Juan Mts., New Mexico

Aug. 11. hummingbird (2--noted loud noise during flight), Juncos (numerous), 2 Ambystoma sp. found under rotting logs in open area, site of old saw-mill, and 1 large toad Bufo (?) in same location. The latter 3 animals were discovered by Ward + Jerry Russell. By mid-morning we proceeded northward to Chama. Here we made enquiries into means of entry into the high country of the San Juan mountains. Finally we entered the locality given at the heading to page 1. by driving into Colorado + then southward over a poor dirt road. This general area is called the Meadows of the Brazos River. After a preliminary survey of the area, we made camp beside a small stream at 10,000 ft. Between 5:30 - 6:45 P.M. (mountain standard time) I set out 60 Museum specials along the stream + 30-40 ft above the stream on steeply sloping, blue spruce-studded hills. Used chewed oatmeal as bait. While setting out traps saw 1 ♂ Western Tanager, Mt. Chickadees, Ruby-crowned Kinglets, Juncos, and Chickadees. During the early afternoon in the area of the meadows, saw 15+ Turkey Vultures, Ravens, 1 Goshawk (sitting in a Blue Spruce in open grassland) and several Horned Larks. In one of the small streams (locally famous for the trout fishing) saw many small (2"-4") speckled trout (Salvelinus fontinalis), as identified by the light edging to the pelvic + pectoral fins. The water is quite cool (below 50°F estimated), and the streams have good deeply cut banks. This area, primarily Canadian life zone, reminds me of the mountain country surrounding Lake Okanagan in British Columbia. The former is at 10,000, while the

Bowman
1952.

Journal

3.

Aug. 11. 11.5 miles NE Chama, 10,000 ft. Rio Arriba Co., San Juan Mts.,
New Mexico: former at 7000 ft. of course the plant species
are different. (Photos to be taken at a later date). In general
the topography is gentle to steeply rolling, covered with soil.
One is impressed by its park-like appearance. Small groups
of spruce [Picea paryana - Blue Spruce) and (^(this species not identified) P. engelmanni - definitely) ^{1 R.E.A.}
Engelman spruce) occur throughout area. Small and some
fairly extensive stands of Populus tremuloides occur mostly
on the S.E. slopes. Picked up traps at 5:30 a.m. on Aug. 11th.
Caught the following: 6 Peromyscus maniculatus, 1 Sorex
palustris (on small gravel-sand bar at edge of stream), 1 Clethrionomys
gapperi. During morning walk (6:45 - 10:30 A.M.) ~~saw~~
observed the following animals or their signs: Red-shafted Flicker
(2), Sparrow Hawk (3: 2 ad + 1 im.), 4+ Western Wood Pewee (collected),
Ravens (6+), mountain Chickadee (numerous --- most ubiquitous
bird in area, from tops to bottoms of spruce trees, in
poplars) -- Saw what is probably the nesting site of this species.
It consisted of a tangle of spruce twigs about 7 ft. from ground
with a small hole on one side. Two ~~adult~~ birds were
seen in the immediate area of the nest but not seen to enter;
Junco (3+; shot an im.); heard + saw red crossbills (3+)
flying overhead; shot one im. Audubon Warbler in the
upper reaches of a spruce; the wood pewees were almost
exclusively restricted to the poplar groves, where they were
giving their hissing "pseer" call. Brown Creeper + Red-breasted
Nuthatch were heard, each on one occasion. Two broad-tailed
Hummingbirds flew across my field of view. Heard their noisy
flight and saw the white in the tail feathers. There are

Bowman
1952

Journal

4.

Aug. 11 11.5 miles NE Chama, 10,000 ft., Rio Arriba Co., San Juan Mts.,
New Mexico: numerous Pocket Gopher diggings in area. This
might be due to the considerable depth of soil, which is
very humous and moist. There are essentially no rocky
outcrops and but a few gravelly areas, except near streams.
Saw several chipmunks (Eutamias amoenus) scurrying &
calling in spruce groves, usually where considerable dry
fallen limbs & logs. Rabbit droppings are everywhere in and
around trees. These are fresh. I shot one adult Snowshoe
Rabbit. It was extremely tame, & would run only a few yards
when alarmed, & then stop, making shooting with a .38
shot shell a very simple matter. During the early morning
hours just before it became light (approx. 4:45 A.M.) and
again at 8:00 P.M. heard Horned Owl hooting. The other party
members saw the following - Pine Grosbeak, Pileated Woodpecker,
Canada Jay, Chickadee, Mountain 3-toed Woodpecker. It should
be noted that the weather here has been most unpredictable so
far. Usually the mornings are clear & sunny, with heavy
dews. By 11:00 A.M. cumulous cloudbanks appear and
scattered thundershowers prevail until midnite. The temp.
is ideal for hiking, & cool for sleeping. No ^{actual} readings taken
as yet. The average height of the mature spruce tree (sp.?) is
50 feet. At 7:00 P.M. set out 22 MVZ specials at the edge of a
1 acre meadow beside camp. Some traps placed at bases of
spruce which were immediately bordered with moist grass
covered meadows. The majority of the traps (12) were located on
dry ground along logs & stumps. Heavy thunderstorm at
11:00 p.m.

Bourman
1952.

Journal

5.

Aug. 11 11.5 miles NE Chama, 10,000 ft., Rio Arriba Co., San Juan Mts.,
New Mexico: The following are a few bird temperatures taken:

im. Junco - 10 sec. after shot (dead) 40°C at 7:20 A.M.

Wood Pewee ^{ad.} - alive, but wounded 39.2°C at 7:40 A.M.

Audubon Warbler - im., alive but wounded 40.3°C at 8:15 A.M.

Aug. 12. Arose at 5:05 A.M. (M.S.T.). Caught one Clethrionomys and one
Zapus in trapline (22 Museum Specials). Both animals were
caught at edge of small meadow south of camp at the base
of spruce trees. Heavy rain during evening. Hiked around
camping area from 7:³⁰~~55~~ A.M. to 9:15 A.M. Observed the following
species: 3-toed woodpecker (1), red-shafted flicker (3+),
goshawk (1), horned owl (2+), wood pewee (2+), mountain chick-
adee (α), red-breasted nuthatch (1), ruby-crowned kinglet (3)
pine grosbeak (6+) -- giving 3-syllabled call while in flight; birds
always landing on the uppermost branches of spruce or fir.
red crossbill (1), red-backed junco (α) - many young; chipmunk
(2), chickaree (3). Animals recorded by other party members,
as follows: Crow (1 shot by W.C. Russell), Vesper Sparrow (1 shot
by W.C. Russell), Williamson sapsucker (1 shot by S.O. Landry), ^{Canada Jay} (2 shot by Landry),
1 pocket gopher (trapped by J.C. Russell), 1 Ambystoma sp. (caught
by J.C. Russell as it entered a gopher hole at 10:00 a.m.). Bird-
life found most abundantly at edges of forest stands, and in
small groups of firs & spruces in open grassland. Many
flowers in bloom on grasslands, i.e. purple daisies,
yarrow, blue bells; on the more shaded slopes found a
purple-flowered vetch and Indian paint brush. Many large
mushrooms (up to 10" diam), with white spots on a brilliant orange-
red background, growing on open slopes & in open wooded areas.

Bourman
1952

Journal.

6.

Aug. 12. 11.5 miles NE Chamas, 10,000 ft., Rio Arriba Co., San Juan Mts., New Mexico

Abundance of grasshoppers, which don't appear in flight until about 9:00 A.M. Large ant hills are frequently encountered measuring $1\frac{1}{2}$ ft. in diam. There are some mosquitoes which are noticed primarily in early evening. Temperatures are cool enough at night to keep them inactive. Temp of air taken at 7:55 A.M. (MST) in shade of spruce on east facing slope. Learned how to distinguish the local spruce & fir trees

<u>Character</u>	<u>Spruce (Picea)</u>	<u>Fir (Abies)</u>
a. shape of needles -	squarish in x-sect. ■	flat in x-sect -
b. color of cones (♀) -	reddish brown - <u>hanging</u>	dark grey - <u>vertical</u>
c. color of bark (mature tree) -	reddish background : light grey; bark similar to yellow-pine tree Bark rough	smooth.

Looking north to Colorado (2 miles North of camp) could see 3 small snowfields on SE slope of mountains, possibly 5-6 miles distant, and an estimated 1000 ft. higher than our altitude here (10,000 ft.). This area about camp is grazed by a large herd of sheep, thus polluting much of the small streams. The owner (name?) dropped into camp & reported that there are many small (6"-8") trout in the streams; few large ones. The local game warden (camped $\frac{1}{2}$ mile from here) reports 40+ elk in area, wildcat, & Coyote, & black foxes. He (Mr. Owens) said that the rabbits & grouse are "low" in numbers this year possibly due to the heavy snowfall last winter -- 70 feet! lying 40 ft. deep! Called horned owls tonight. Saw 2 & heard one other. One bat in flight around camp at 7:35 pm. No others seen. Post Script - Ward Russell brought in a marmot skull. S.O. Hendry found porcupine cuttings on spruce.

Bowman
1952.

Journal

7.

Aug. 13 11.5 mi. N.E Chama, 10,000 ft., Rio Arriba Co., San Juan Mts., New Mexico
Pickup of 26 traps yielded 1 Onychomys. No rain last night, although a few traps sprung. From 7:30 - 11:00 A.M. (MST) observed the following animals: Crossbills, mountain chickadee, Canada Jay, Wood Pewee, Williamson's Sapsucker (1), Pine Grosbeak (3), Audubon Warbler (1), Sparrow Hawk (2), Red-tailed Hawk (2), Red-shafted Flicker (2), Robin (8), -ad + im.
Ruby-crowned Kinglet
White-crowned Sparrow (3), Pine Siskin (3), Crow, Turkey Vulture (1),
1 Chipmunk seen at least 10 ft. up in spruce tree.
Coyote (skull only picked up in stream); many pocket gopher diggings in meadows. Made 4 sets of gopher traps (6 traps) in open fields directly north of camp. Soil very deep, rich, black + moist with plenty of humus. - south exposure. Robins were seen in abundance in protected meadow 1 mile N of camp alongside stream. Several immatures seen + heard. Two unidentified swallows seen flying high over stream at state border (Colo. - N.M.). Jerry C. Russell shot one Violet-green swallow so it is possible that the two birds I saw were of this same species. The two Red-tailed Hawks seen north of camp, acted in rather unusual fashion. One bird landed on the grassy slopes beside stream + was seen to hop around on the ground half hidden by the long grass. It uttered the characteristic long hissing note. At state border observed the only willow seen in the area. Since it was at the stream bottom, it was a hundred or more feet lower in elevation than most of the surrounding land. Western Wood Pewees were seen ~~in large numbers~~ feeding at edge of ~~pine~~ spruce-fir woodland, perching on dead trees only.

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1952

Journal

8.

Aug. 13 11.5 mi. NE Chama, 10,000 ft., Rio Arriba Co., San Juan Mts., New Mexico

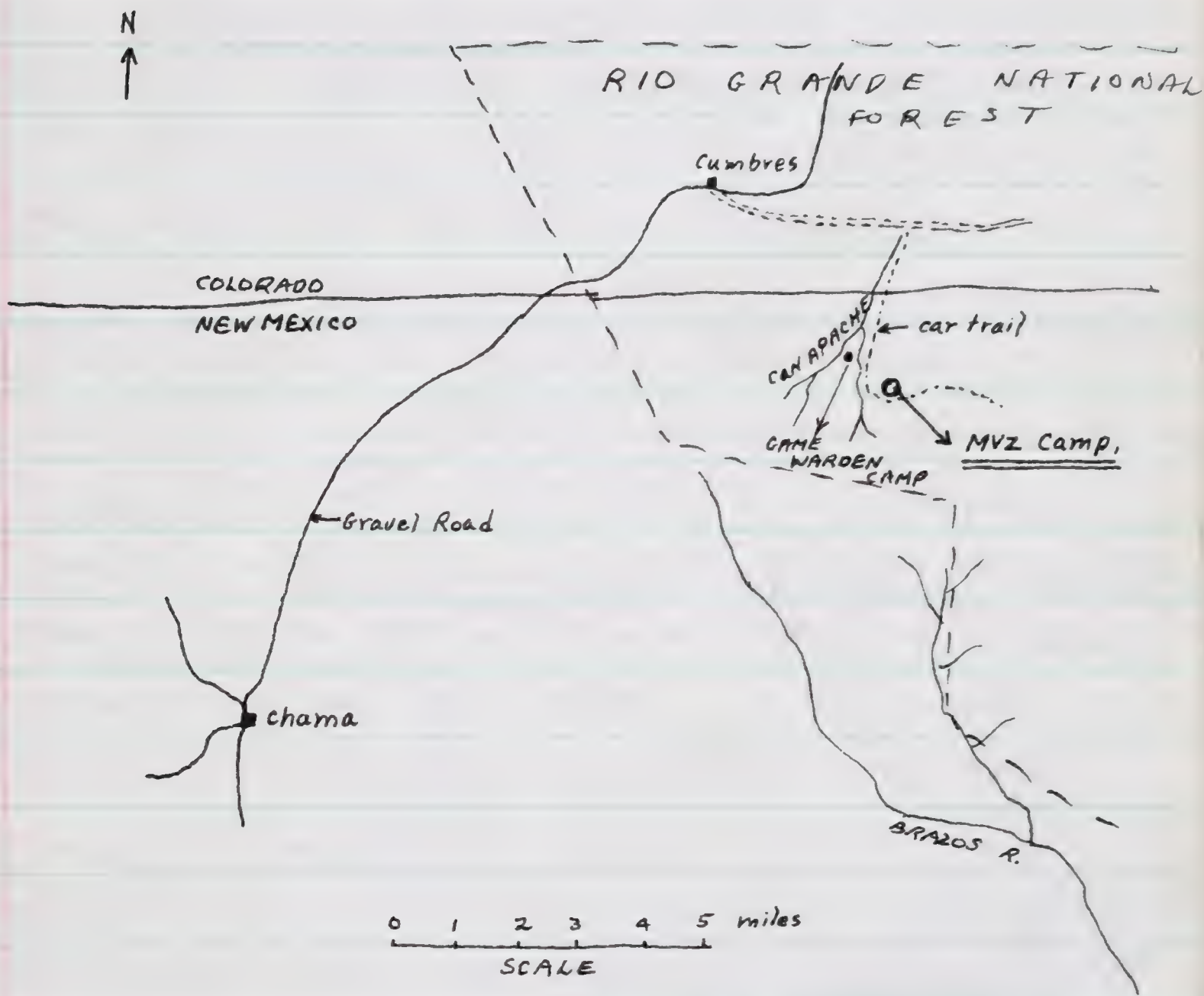
On wooded slopes, found extensive areas of tree falls. Much of these fallen trees have rotted away providing very suitable habitats for salamander. However none have been found after considerable effort. Much insect food under rotting logs. Water temperature of stream beside camp at 7:30 A.M. in shade, 48°F . air temp. in shade in same locality, same time, 51.5°F . Slight rainfall during afternoon today. Morning clear, warm, slight west wind. Animal observations by other party members ^{today}: Brewer Blackbird (1 shot), Steller Jay (1 shot), Violet Green Swallow (1 shot) -- all by Terry C. Russell. T.C. Russell also found the remains of 3 rabbits in the woods during past 2 days. Possibly these were taken by owls. T.C. Russell saw one bat fly by camp at 7:40 P.M. (~~PST~~ MST). -- almost dark. Ward C. Russell found a small horned lizard (about 2" long) under our truck, on gravelly-clay soil during morning. WCR reported hearing Olive-sided Flycatcher in the past few days and yesterday, he saw 2 House Wrens. Yesterday, visitors to the camp reported seeing what we decided were water ouzels along streams, about 1 1/2 mi. SE of our camp. I saw none today in hiking along one mile of stream north of camp. Several small trout (4-5" estimate) seen in the shallow water (no more than 10" deep most places). At 6:00 P.M. set out approx. 40 Museum Specials along stream for shrews, and neighboring trees + logs for Peromyscus et. al. One owl (?) pellet picked up by Landry contained the fore-limb of a pocket gopher (?).

Cowman
1952

Journal

9.

Aug. 13. 11.5 mi NE Chama, 10,000 ft., Rio Arriba Co., San Juan mts.,
New Mexico. Found remains of snow-tunnelling by
pocket gophers. The following is a copy of U.S. Forest
Service map, Carson Sheet, 1935. - U.S. Dept. Agriculture.



Aug. 14 11.5 mi. NE Chama, 10,000 ft., Rio Arriba Co., San Juan mts.,
New Mexico. Picked up trap line at 6:30 AM. Out of 36
traps set along stream, caught one ad ♀ Peromyscus
maniculatus. Observed one Spotted Sandpiper alongside
a mud puddle in the roadway east of camp. First noticed
the characteristic tail bobbing. From 7:20 to 11:00 AM. hiked
north of camp for about 1 1/2 miles following stream
bottom, west facing hillside & return to camp.

Bowman
1952

Journal

10.

Aug 14. 11.5 mi. NE Chama, 10,000 ft., Rio Arriba Co., San Juan Mts.,
New Mexico. Observed the following animals: Pine Siskin,
Pine Grosbeak, Red-breasted Nuthatch, Ruby-crowned
Kinglet, Wood-pewee, Grey-headed Junco (J. caniceps),
Wood Pewee, Western Bluebird (10), ^{Crow (5+)} Red-tailed Hawk (2)
Sparrow Hawk (2), Red-shafted Flicker (6), Audubon
Warbler (2); ^{Band-tailed Pigeon (1)} Chipmunk, Chickaree, Pocket Gopher.
Observed a chipmunk calling from a 5 ft position from
ground, in a 10 ft. spruce tree. The Bluebirds were
seen on the higher slopes where extensive open
fields with scattered spruce trees. Birds seem
to feed on ground. Both birds shot were immatures.
My gun jammed by mid-morning so collecting
was restricted. The mouth of the grey-headed junco
was full of small ^{dipterous} insects, seen taken on bark of
spruce tree just before taken. In the gopher
set captured 2 gophers, one of which was badly
macerated, possibly by a weasel. Ward Russell
examined some of the "stringy" droppings found
at the entrance to one gopher hole ^{i.e.} ~~which he said were undoubtedly weasel~~ which he said were undoubtedly weasel. Also,
the fact that many gopher burrows were exposed
to the surface, suggested that a weasel had
"taken over" the colony of gophers. We re-set
the 2 gopher traps and one Shyler trap baited with
fried fish head, hoping to trap a weasel and/or gopher.
The following were observed by Terry Russell: shot
1 ad + 1 im. Russet-backed Thrush, caught one 2 1/2" long

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1952

11.

Journal

Aug 14. 11.5 mi. NE Chama, 10,000 ft., Rio Arriba Co., San Juan Mts.,
New Mexico. - horned lizard on the rich humus
soil surrounding a gopher hole. This hill has an
eastern exposure. Captured at 1:00 p.m. (MST) while
in the sun; saw one Pileolated Warbler, and
brought in the breast bone & some thoracic ribs
& vertebrae of a "grouse" (identified by WCR); trapped
2 small shrews (dusky?) in Museum specials
placed at the entrances to hollow logs. The following
observations by Ward Russell who spent 5 hours
to the SW in the meadows of the Brazos R.: shot
1 Pica (saw another, & remarked that they give
only one nasal "bleat" instead of the usual 2);
shot one Red Crossbill; 2 Horned Larks, 1 Savannah
sparrow, 1 Cassin Finch; saw one Woodchuck,
and heard some unknown amphibian trilling
from a meadow (Hyla?); 1 Rock Wren, & collected
one, two ft. long garter snake. Ward caught his
limit of trout (15) - 12 Brook Trout, 2 Cutthroat,
Trout, and 1 Rainbow Trout. Addenda: Golden-
mantled ground squirrels (2) collected by Stuart
Londry yesterday (Aug. 13). Today, Londry
reported fresh deer droppings on a steep wooded
slope east of camp, and White-crowned Sparrows.
The Peromyscus maniculatus which I trapped today
had a white dorsal area (1 1/2" long) ~~in the center of~~
half way down the length of the tail on the
dorsal surface. Stuart Londry caught 2 Peromyscus

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1952

Journal

12.

Aug 14

11.5 mi. NE Chama, 10,000 ft., Rio Arriba Co., San Juan Mts.,

New Mexico. - yesterday ^{of} which ^{one} showed a light colored dorsal tail surface, while the other was light-colored. The following bird temperatures were recorded:

<u>Species</u>	<u>Temp.</u>	<u>Time</u>	<u>Condition</u>
Black-headed Junco	39.2°C.	8:03 A.M.	dead 15 sec.
West Mt. Bluebird	38.9°C	9:10 A.M.	dying
Mt. Bluebird	40.0°C.	10:20 A.M.	alive (broken wing)

Found the fore-leg of a snowshoe hare (winter pelage) and 20 ft distant, a tail feather from a Red-tailed hawk. At 5:45 P.M. set out 35 Museum Specials south of camp in wooded marshy area.

Aug 15. Pick-up of Museum specials at 5:50 A.M. - Only one Zapus taken in meadow beside a log. Temp. at 5:45 A.M. at camp, in shade 42°F. Frost on ground. From 7:00 A.M. to 11:00 A.M. hiked the mountain range ^{east} ~~west~~ of camp. The shaded W.-facing slope is heavily wooded + damp. Found liverwort growing profusely on ground. Found golden-mantled ground squirrels ^{digging} on a rocky-ground covered plateau. Good view of the Sangre de Cristo range to the east. --- appears like a saw-tooth range, considerably higher than any of the surrounding country to the N, S, or W. This mountainous country is surprisingly flat + tame, reminding me much of the topography in central British Columbia in the N. part of Tweedsmuir Provincial Park. The plateau east of camp is approx. 1000 ft. higher than our camp, thus making it 11,000 ft.

Bourman
1952

Journal

13.

Aug. 15. 11.5 mi NE Chama, 10,000 ft., Rio Arriba Co., San Juan Mts., New Mexico: - Although there are a few scattered groves of fir + spruce trees (from $\frac{1}{2}$ acre to 5 acres), the greater part is grassy field. There is evidence of greater tree growth here, for in many places there is ^{an} extensive fall of trees, now grey + weathered. Animal observations as follows: Junco (Black-headed) seen frequently in trees. Shot at a family group 20 ft. off ground in a dead spruce tree. Shot one Chipmunk: anal temp. 15 sec. after shot (dead), 39.8°C. at 8:50 A.M.. Saw 10+ Mt. Bluebirds on the open grassland plateau -- flying from dead stump to stump. Young birds seen fed by adults. Pine Siskins (?) and Crossbills (Red), and 4 Audubon Warblers seen in ~~for~~ trees. Found a small pond (estimated 1 acre in size -- circular) containing hundreds of Necturus (?) ranging in size from 2" to 4", called "mud-dogs" locally. These amphibians were located in the shallow margins of the pond, sunning. Was able to capture only one animal. Water temp. at 10:15 A.M. in shade at surface was 61°F. I estimate the pool to be uniformly shallow, possibly 3 ft. deep at center. Bottom muddy. Could find no frogs or toads in area -- also no kingfishers! About 10 open + spruce trees around edge of pond in 3 scattered clumps. The west-facing slope of this range, at its northerly pt., is rocky covered, ideal for conies, but found none. Ripe raspberries found growing amongst granitic boulders. Half way down hillside found a small

Boorman
1952

Journal

14.

Aug 15 11.5 mi NE Chama, 10,000 ft., Rio Arriba Co., San Juan Mts.,
New Mexico :- spring with a good size growth of alders,
about 8 ft. high. Here shot a Vesper Sparrow and
an Olive-sided Flycatcher, and saw 1 ♂ (ad.) Pine
Grosbeak. Discovered a large porcupine hiding
in the center of a growth of alder stems. It threw
up its spines and flashed its tail when I jabbed
it in the head region. Nearby found a 15 ft. high
spruce tree with two areas about 4-6" long + $\frac{1}{3}$ around
trunk of tree, where bark had been removed, presumably
by porcupine. Also heard Ruby-crowned Kinglets
chipmunks + chickarees en route, -- also Red-
shafted Flicker + Turkey Vulture (1). Yesterday
(Aug 14) Ward C. Russell saw 1 marsh Hawk around
the Brazos Meadows. Today WCR + JCR reported a
marsh Hawk, Pipit + Horned Lark, + shot 4 Ribes.
WCR. caught 15 trout. He heard a Steller Jay near
camp this evening N. of camp. Stuart O. Lambry reported
Red-tailed Hawk, Red Crossbill, West. Flycatcher,
Water Shrew, Clethrionomys, (1), + several Peromyscus
maniculatus. Set 30 Museum Specials in wooded area.

Aug. 16 ~~Two~~ No mice captured in traps. From 7:15 - 11:00 AM
hiked along ridge west of "meadows" area south of camp.
Saw or heard the following: Chipmunk, Grosbeak (Pine)
Black-headed Junco, ~~not~~ Brewer Blackbird (20+), 2
Swallows (Violet Green?) flying southward, Red Crossbill,
7+ Crows, Pine Siskin, Canada Jay (1), 3 Empidonax
sp., 1 Red-breasted Nuthatch, 2 im. Williamson's Sapsucker
(shot)

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1952

Journal

15.

Aug. 16 11.5 mi. NE Chama, 10,000 ft., Rio Arriba Co., San Juan Mts.,
New Mexico:- Vesper sparrow (1 shot in very poor plumage---
eroded contours) Turkey Vulture (1), retrieved skull
of Wildcat trapped by Game Warden. At 7:00 P.M. (MST.)
saw 7 Nighthawks migrating southward, just east
of camp. Stuart Landry shot, Lincoln's sparrow
in meadow at camp and trapped 10 Peromyscus
maniculatus, 1 Microtus longicaudus, and 1
Clethrionomys gapperi. Ward Russell shot 1 Russet-
backed Thrush, saw a Warbling Vireo, Stellar Jay, +
crippled a House Wren. Jerry Russell shot 1 Pileolated
Warbler (♂ in good plumage). At 4:00 pm. Ward Russell
trapped a long-tailed Weasel in a Schuyler trap using
a young Snowshoe Rabbit as bait. Animal squealed
loudly in trap. Was later killed with crushing +
chloroform. Jerry Russell captured the young
Snowshoe Rabbit in a Schuyler trap placed at the
entrance to a large hole dug in gravelly soil
near the edge of the stream. Set 36 Museum
specials along stream, meadow + rocky slope
directly east of camp.

Aug. 17. Caught 3 Peromyscus maniculatus (2 im. + 1 ad.) and
1 unidentified mouse (Reurus?) at base of 5 ft. spruce tree
located in grassy meadow 10 ft. from water. The
"peromysci" were trapped in open granite rocky slope, W-
facing, at base of stumps + falling ^{new} logs. Heard at
camp: Red-breasted Nuthatch, Lincoln Sparrow, Mt.
Chickadee, Red Crossbill, Pine Siskin, West. Wood Pewee

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1952

15

Journal

Aug 17 11.5 mi. NE Chama, 10,000 ft., Rio Arriba Co., San Juan Mts., New Mexico. - Chickaree. 2 pocket gophers taken in ⁴/₅ sets of 5 traps in open meadow + hillside beside camp. Ward Russell hiked to pond on mountain range, which I visited on Aug. 15th, and collected additional Hecturus. In meadow around pond Ward found several Hyla + one garter snake. He shot an ad. ♂ (moulting) Blue Grouse + an im. Thrush (Russel-backed?). Terry Russell shot an ad ♂ Pileolated Warbler in good plumage, 1 Brown Creeper; Stuart Landry shot 1 Coliope Hummer (?) Heard 1 Broad-tailed Hummer fly over meadow. During mid-day I collected 24 species of plants + pressed these. Heavy rain + hail storm in afternoon.

Aug 20. 3 mi SW Tres Piedras, 9000 ft., Rio Arriba Co., New Mexico.
The following is an account of activities from Aug. 17:
At ~~10:00~~ 6:00 p.m. another weasel caught in a schuyler trap beside stream (im. ♂). On the morning of Aug. 8, we left our camp at 11.5 mi NE Chama, and drove to Santa Fe via Tres Piedras way. Picked up mail and remained in Santa Fe (1 mi. N of city) until Aug. 19, awaiting wire of additional funds from Berkeley. Scrub Jay were seen in the piñon cover hills around our campsite. Left Santa Fe at 1:00 pm.
Aug. 19th. Arrived at present campsite (3 mi. SW Tres Piedras) about 5:30 pm. Heavy rain in early evening. Observed the following on drive from

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1952

Journal

16.

Aug 20. 3 mi. SW Tres Piedras, 9000 ft., Rio Arriba Co., New Mexico
highway 285 into Campsite on Aug. 19: Violet-green Swallow (10+), Nighthawk (2+), Western Bluebird (3)
Hairy Woodpecker (1) [at Tres Piedras Forest Ranger head-
quarters], Western Tanager (1 ♀) [also at Ranger
station] Pygmy Nuthatch (4+) alighted in yellow pine
tree above camp at 7:30 pm. The following animals
(or their signs) were observed from 7:00 A.M. - 10:00 A.M.
(MST) on Aug. 20. White-breasted Nuthatch (1)
Pygmy Nuthatch (20+), Black-headed Junco (10+),
Red-shafted Flicker (6), Green-tailed Towhee (1 shot,
another seen), Warbling Vireo (1 shot), Orange-crowned
Warbler (1 shot), Pileolated Warbler (1 seen), Pileated
Woodpecker (4 flew low overhead), Williamson's
Sapsucker (1), Clarke Nutcracker (6+), Stellar Jay
(2), Western Bluebird (8+), Nighthawk (6+, one
dove with characteristic noise at end of dive),
Pocket Gopher diggings fairly common (WCR topped 2),
Eptesicus fuscus (1 shot, possibly 3 others of this
species seen). The following bird temperatures were taken:

Species	Cloacal Temp.	Time	Condition
* Pygmy Nuthatch	40.6°C	7:35 A.M.	alive dead 10 sec.
" "	40.0°C	8:35 A.M.	dead 10 sec.
Orange-crowned Warbler	41.0°C	9:05 A.M.	dead 20 sec.
Green-tailed towhee	42.8°C	7:45 A.M.	alive

* Small bird life crawled off avicular area after dead.
~~Yet~~ Orange-crowned Warbler had a small tapeworm
in intestine. Porcupine scratchings on bark seen on two

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1952

Journal

17.

Aug. 20. 3 mi. SW Tres Piedras, 9000 ft., Rio Arriba Co., New Mexico
occasional. In early evening hunted for bats beside
a small water impoundment about elevation 8600
(estimate). Saw & heard Nighthawks along ridges
nearby. ^{Only a few} ~~At~~ nighthawks at our elevation. Jerry
Russell shot one big brown bat. The following is
by way of description of the area surrounding our
campsite. The dominant vegetation is Yellow Pine,
with the average height approximately 60 ft. (estimate).
~~The~~ The stand of pine is open, with interspersions
of grove of aspen. There is some logging being
carried out, and in those recently logged areas
we find the aspen groves thriving. The oak (sp.?)
takes on the form of a scrubby deciduous shrub,
averaging approx. 6 ft. high, and usually in the
open areas, in small stands about 10 feet square;
occasionally interspersed with ~~at~~ ^(200 ft.) the aspen.
At slightly lower elevations: sagebrush (Artemisia
tridentata) appears. The grass is not dense but
reaches approx. 1 ft. high on the average. Some cattle
graze the area, & their droppings, both fresh & old,
are most everywhere. The soil is shallow, & gravelly,
with little ~~humus~~ humus. Some yellow daisy,
purple lupins are in bloom. There is neither the
lushness nor the variety in flowering annuals,
which prevailed at our higher camp (10,000 ft., 18.5
mi. Chama). There were 2 light showers during the
day with some hail. For a better idea of the terrain

Bowman
1952.

18.

Journal.

Aug 20. 3 mi. WSW Tres Piedras, 9000 ft., Rio Arriba Co., New Mexico
see photos nos. 1/1, 1/2, 1/3, 1/4. Set out 25 Museum traps
in aspen grove by camp.

Aug. 21. Temperature in shade at 6:40 AM at camp, 55°F.

From 7:00 - 9:30 a.m. (M.S.T.) observed the following:
Pygmy Nuthatch (these are the most ubiquitous
birds in area, found primarily in the yellow pine
They occur usually in flocks of 3 to 10. They utter
several notes & calls. I have noticed a plaintive,
quiet trill given when in flocks & preparing to
leave for another tree feeding station, at other
times a solitary bird will give an oft repeated two-
parted reedy whistle. I am taken with the striking
resemblance between this species of nuthatch &
woodpeckers, in flight, pecking habits, etc. and
relative tameness. Whereas at our Chama
camp, juncos were the most conspicuous and
probably ^{most} abundant small bird life, here at our
Tres Piedras camp, the pygmy nuthatch forms
the dominant bird species. Another note given
by the pygmy nuthatch is almost finch-like in
quality, given usually, but not exclusively, while
feeding in small groups (2-3). This is frequently
the only clue to the presence of this "note" of a bird.)
Solitary Vireo (taken in aspen grove); Calliope Hummer
Steller Jay (2), White-breasted Nuthatch (1), Western
Bluebird, Siskin, Williamson Sapsucker (1), Orange
Crown Grace Warbler (taken), Black-headed ^{grey} Juncos, -
(young & adults) -, Clark Nuthatch (3), Violet-green.

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1952

19.

Journal

Aug. 21 3 mi. SW Tres Piedras, 9000 ft., Rio Arriba Co., New Mexico.
Swallow (1), Mt. Chickadee (3), 1 Warbling Vireo -
(in aspen), West. Wood Pewee (1), 1 Horned Lizard,
approx $\frac{3}{4}$ inches long found running across open
area at 8:20 A.M. -- some sun on granitic soil. Dry
oak leaves nearby. Temperature of birds shot as follows

<u>Species</u>	<u>Temp.</u>	<u>Time</u>	<u>Condition</u>
<u>Pygmy Nuthatch</u>	41.4°C	7:10 AM	dead 5 sec.
<u>White-breasted Nuthatch</u>	40.6°C	7:30 AM	dead 10 sec.
<u>Western Bluebird</u>	41.9°C	7:30 AM	dead 30 sec.
<u>Williamson Sapsucker</u>	41.8°C	7:40 AM.	dead 5 sec.
<u>Warbling Vireo</u>	41.3°C	9:00 AM.	dead 5 sec.

For conception of poplar grove by camp, where 25
Museum specials set on evening of Aug 20 th, see
photo. 1/5. Captured 4 Peromyscus: 2 ad + 1 im
P. maniculatus, and 1 P. truei?. At 6:30 pm. a
very ominous electric storm headed towards our
hill, so we drove to Tres Piedras. On the way down
hill we counted 10 + Poor Wills (short tails) which
took off from the gravel roadway. Storm so
severe, that we remained at Forest Rangers
station overnight.

Aug. 22 Returned to our campsite, after spending the night at
Forest Ranger Station in Tres Piedras. Learned from one
of the helpers there that the electric storm started a
small fire about 3:00 pm. a few miles W. of Tres Piedras
on Aug. 21. -- caused by lightning. On our return
to camp, counted a large flock of Violet Green Swallows

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1952

Journal

20.

Aug. 22 3 mi. SW Tres Piedras, H 9000 ft., Rio Arriba Co., New Mexico

approx. 50, flying around farmhouse just as one enters the yellow pine zone from the valley.

Commenced my morning collecting excursion at 8:00 AM. Ended at 11:00 AM. Observed the following:

Red-shafted Flicker, Pygmy Nuthatch, Audubon Warbler (1), Grace Warbler (1), Orange-crowned Warbler, Pileolated Warbler, Mt. Chickadee, White-breasted Nuthatch, Clark Nutcracker (2), Broad-tailed Hummer, Calliope Hummer, Turkey Vulture, West. Wood Pewee, Violet Green Swallow, (adults feeding young in nest in dead Yellow Pine), Gray-headed Junco (numerous ad. + im.), Hairy Woodpecker, Solitary Vireo, Western Bluebird, Rabbit (1, unknown sp.), Pocket Gopher diggings, heard, Chipmunk.

Bird temperatures as follows:

<u>Species</u>	<u>Temp</u>	<u>Time</u>	<u>Conditions</u>
<u>Grace Warbler</u>	38.6°C	9:00 AM.	alive.
<u>Pileolated Warbler</u>	40.6°C	9:40 AM	dead 10 sec.
<u>Calliope Hummer</u>	39.0°C	10:10 AM	dead 30 sec.
<u>Violet-green Swallow</u>	40.5°C	10:30 AM	dying.

Discovered one Rose-bush. Fairly abundant bloom of a purple lupine + yellow daisy. Will collect samples later. Juncos were found "loafing" in a young growth of pines (8 ft. high) and oaks. Aspen groves always yield a solitary or warbling vireo. I have not as yet seen a golden-mantled ground squirrel, which have been taken by other members of party. They are exceedingly large and fatty.

Bowman
1952

Journal

21.

Aug. 22 3 mi. SW Tres Piedras, 9000 ft., Rio Arriba Co., N. Mex.

It is a puzzling thing to know what the original vegetation of this area was like. They are at present logging yellow pine, so that the stands are open, somewhat like a park. The oaks are small & scrubby. & found underneath pines, & also in aspen grove. Young pines are found coming up under aspen! Fir are virtually absent, although Stuart O. Landry reports finding one nearby. The following are some birds & mammals reported by other members & not as yet seen by me: Golden-mantled ground squirrel, Chipping Sparrow, badger diggings, House Wren, Red-tailed Hawk, West. Flycatcher, ^{Spotted Towhee, Black-headed Grosbeak}. I remained in camp this evening, while others went after, porcupine, owls & bats.

Aug 23 From 6:50 - 11:15 AM hiked about 4 miles SE of camp, descending possibly to the 8000 ft. elevation (no altimeter reading taken). Observed the following animals: Pygmy Nuthatch, ^{West Wood Pewee}, Clarke Nutcracker, Pine Siskin, Calliope Hummer, Stellar Jay, Killdeer, House Wren, Turkey Vulture (1), Western Bluebird, Violet-green Swallow, Warblers (sp?), Mt. Chickadee, Russet-backed Thrush (or Hermit Thrush? - see specimen no. 142 R.I.B.), Small Frog seen but unable to catch -- did not look like Hyla, seen on dry SE exposure -- heavy rain in preceding 24 hrs., chipmunk, Golden-mantled ground squirrel, 2 Cottontail Rabbits.

Bowman
1952.

Journal

22.

Aug. 23

3 mi. SW Tres Piedras, 9000 ft., Rio Arriba Co., New Mexico.

Was impressed by the large numbers of warblers passing through area. Observed chiefly on the hill tops in yellow pine + aspen. Usually seen in small groups, feeding very briefly + then moving on. No definite N-S movement apparent. Today I observed large numbers (20+ at one time) Pygmy Nuthatches feeding in aspen groves. Birds were exceedingly tame. I could approach to within 3 feet of birds while "squeaking." Although few birds were killed today, much of my time spent in examining the distribution of major tree types. At an estimated 8000 ft. level noted the following trees + shrubs growing within a $\frac{1}{2}$ acre of land: yellow pine, a Juniperus^{an oak}?, a fir (sp?), aspen, chrysothamnus, + sagebrush. Here we have an upper sonoran plant (Juniper) growing side by side with a Canadian (fir) type species. How does this fit the life-zone concept? Found one small group of 10 fir trees growing on exceedingly rough terrain --- 3 ft. boulders + a NW exposure. Trees were all mature + about 50 ft. tall. ~~Hearty~~ 1. Ground Squirrel + 1. Chipmunk found among rocks. About 30 ft. distant found several 6 ft. fir trees growing up under a dense stand of aspen. Obvious signs of lumbering + grazing. No signs of a house. On the W facing slope, just over the crest of a hill, found oak growing to a height of 15 ft., with a basal diameter of 10 inches. Discovered a shallow lake.

Bowman
1952

Journal.

23.

Aug 23. 3 mi. SW Tres Piedras, 9000 ft., Rio Arriba Co., New Mexico.

about $1\frac{1}{2}$ acres in area, as of this time --- formerly larger -- about 3 miles SE of camp. No amphibians could be located either in the water or in the surrounding, closely cropped grass. See photo 1/7.

The following bird temperatures were obtained:

<u>Species</u>	<u>Temp.</u>	<u>Time</u>	<u>Conditions</u>
<u>Pine Siskin</u>	40.9°C	8:05 AM.	lying.
<u>House Wren</u>	40.3°C	9:10 AM	dead 10 sec.
<u>Russet backed Thrush</u> <u>No. 142 R.I.B.</u>	42.3°C	10:10 AM	dead 20 sec.

At 3:00pm. we drove into Tres Piedras for mail. Saw several English Sparrows around buildings. Also a flock of 50 (counted) Nighthawks circling over highway. No obvious migratory movement. ^{also saw} 5+ Mourning Doves.

Aug 24 Slight rain last evening. Cool & damp this morning.

From 6:50 AM - 10:00 AM observed the following while hiking along a prominent pine & aspen covered ridge NW of camp. : Heavy Woodpecker, Red-shafted Flicker, Hawk (Buteo sp.?), Mt. Chickadee, West. Wood Pewee, West. Bluebird, Pygmy Nuthatch, White-breasted Nuthatch, ^{Gray headed Junco} Pine Siskin, Clarke Nutcracker, Seller's Jay, Tree Swallow, Pileolated Warbler, Townsend Warbler, Audubon Warbler, Calliope Hummer. Observed Pygmy Nuthatches swoop out after insect food on two occasions. --- merely a dive, not a sustained fluttering in one spot. Warblers were to be heard everywhere on the ridge -- in pines, oaks, and aspens. All my warblers were taken in aspen since they are easiest to shoot here. They remain for only

Bowman
1952

Journal

24

Aug. 24. 3 mi. SW Tres Piedras, 9000 ft., Rio Arriba Co., New Mexico
a very few minutes in one tree, feeding actively all
the while. The Audubon Warblers seem to be the
most elusive warbler yet encountered. Vireos have
been met with only in aspen groves --- never in
pine or oak thickets. All the warblers collected
have been fatty on the feather tracts & around the
clavicles. The most fatty was the im. Pileolated
Warbler taken today. Pigmy Nuthatches are still
as abundant as ever & very responsive to "squeak".
Other members recorded im. Grosbeak (4p?). Spotted
Towhee, Green-backed towhee, Tolmie Warbler, Red-
naped Sapsucker, + the folks Band-tailed Pigeon + Striped
skunk.
The following temperatures were recorded: + R. Mt. Hare
deer

<u>Species</u>	<u>Temp.</u>	<u>Time</u>	<u>Condition</u>
Audubon Warbler	41.2°C	7:45 AM	dead 5 sec.
Audubon Warbler	41.7°C	9:50 AM.	dying
Townsend Warbler	41.0°C	8:10 AM	dead 10 sec.
" "	41.8°C	9:35 AM	dying
" "	41.2°C	9:45 AM	dead 5 sec.
Pileolated Warbler (im.)	42.3°C 40.7°C	8:50 AM	dead 10 sec.
Grey-headed Junco	42.3°C	9:05 AM.	dead 5 sec.

W.C.R. & J.C.R. collected 2 Poor Wills after dark along
roadway. Also 1 Big Brown Bat: Clear & cool this
evening.

Bowman
1952

Journal.

25.

Aug. 25.

3 mi. SW. Tres Piedras, 9000 ft., Rio Arriba Co., New Mexico.

Temperature in shade at 6:25 A.M., 56.0°F. Clear cloudless

From 6:30 AM - 8:15 AM. observed the following in a short walk on ridge NW of camp. Yellow pine, oak, & aspen

are the dominant vegetation. Steller Jay, Hairy Woodpecker, Clark's Nutcracker, Pygmy Nuthatch, White-breasted

Nuthatch ^{mt. Chickadee.}, Collopy Hummer, West. Bluebird. Audubon Warbler. Warblers were everywhere to be heard, and

moving rapidly in a southward direction. Pygmy Nuthatches although still abundant, seemed

less noisy today. As usual they were found most commonly in the yellow pines, & occasionally in the oaks. Fresh Pocket Gopher diggings found at the base of oaks in fairly loamy soil. Soil is very shallow -- no more than 6" deep where sampled once. Gravel & boulders beneath this. The following temperatures were taken.

<u>Species</u>	<u>Temp. °C</u>	<u>Time</u>	<u>Conditions</u>
<u>Audubon Warbler</u>	42.1°C	10:00 AM	dead 2 sec.
<u>Pygmy Nuthatch</u>	38.4°C	6:43 AM	alive
"	41.6°C	6:45 AM	dead 5 sec.
"	41.6°C	10:15 AM	dead 5 sec.
"	41.7°C	1:45 P.M.	dead 5 sec.
"	41.6°C	1:45 P.M.	alive
"	41.6°C	1:45 P.M.	dead 2 sec.
"	41.9°C	1:45 P.M.	dead 3 sec.
"	42.0°C	1:50 P.M.	dying.

Bowman
1952.

Journal.

26.

Aug. 25. 3 mi. SW. Tres Piedras, 9000 ft., Rio Arriba Co., New Mexico.
The following animals were noted by other party ^{fossil-eared} members: Microtus longicaudus, Pinon Jay, ^(Scurus aberti) ~~Squirrel~~, Mule Deer (1). During early afternoon collected plants for pressing. At 3:30 P.M. drove to Tres Piedras. Hail storm en route. Observed the following in Tres Piedras area: 1 Sparrow Hawk, Western Bluebird, 29 Mourning Doves, collected one Ambystoma tigrinum in small pool. At sundown went bat hunting with W.C.R. + J.C.R. I shot none but W.C.R. shot one Eptesicus fuscus. It was extremely fat. Fat poured out of the shot holes. Weighed 24 grams, ~~the~~ nearly half of which was fat. No owls have been heard so far at this campsite.

Aug. 26. Terrey Cr., 6 mi. NW Blondo, 8500 ft., Sandoval Co., New Mexico
Moved camp at 3 mi. SW Tres Piedras at 9:00 AM, Aug. 25. At camp before leaving ^{Saw} ~~heard~~ 1 Robin, 2 Pinon Jays, Pygmy Nuthatch and many warblers migrating through in a southward direction. Drove to the Tres Piedras Ranger Station, Carson National Forest at 8500 ft. Amongst the Chrysothamnus, and Sage + Yellow Clover, Audubon Warbler, Grey-headed Junco, Western Bluebird, 15+ English Sparrows, Chipping sparrow. Found a fruiting agave about 10" tall with many narrow pointed spined-tipped leaves. Found a luxuriant growth of poison ivy ^{in a creek} ~~on a~~ large granite boulder opposite the Tres Piedras Post Office. Found several earthworms under moist cardboard + a piece of wood. Heavy rainfall yesterday afternoon.

Bowman
1952

Journal

27.

Aug. 26. Termez Cr., 6 mi. NW Blund, 8500 ft., Sandoval Co., New Mexico.
From Tres Piedras drove to Espanola, and then via highway no. 4 to Los Almos. From Los Almos (where we were not permitted to enter the city) we drove to our present location passing through "Grande Valley", a large meadow, several square miles in extent. Found over 20+ sparrow hawks sitting along the fence posts here. Previous to this, on N side of Rabbit Mt., 9000 ft., Sandoval Co., N. Mex., found a small pond, $1\frac{1}{2}$ feet deep, and about $\frac{1}{8}$ acre in size, where I collected 1 Hyla (WCR catalogue) & J. C. Russell collected one large Ambystoma tigrinum here beside a rock. By the appearance of the one of the rotten logs nearby, & the apparent "turnover" of all likely rocks & boards, some other "herp" collectors had recently stopped at this location. At 5:00 P.M. set out 26 Museum Specials (oatmeal bait) along Termez Cr. & along the canyons, beside rocks (granite) and at bases of Douglas Firs & Blue Spruce. Could get no response from Horned Owl or Screech Owl calling after dark. By 7:00 P.M. ^(M.S.T.) it is now dark. Observed the following animals around camp in early evening: Steller Jay, Junco, Chipping Sparrow, Chickadee (mt.), Chickadee, & Golden-mantled Ground Squirrel.

Aug. 27. Temp. at camp, 5:40 AM, (M.S.T.) was 45° F. Much cold air drainage into valley where camped. Quick warm-up when sun arose over mountains at 7:00 AM. Caught a total of ^{13.} ~~15~~ mice in 26 sets of Museum Specials

Bowman
1952.

28.

Journal

Aug. 27. Jemez Cr., 6 mi. NW. Blondo, 8500 ft., Sandoval Co., New Mex.
3 Microtus longicaudus on gravel bordering stream, where grasses & an umbelliferous plant form dominant vegetation. (See Photos 2/8 and 2/9.) One trap set very close to water (for shrews) caught one Microtus. The water level of the creek had risen during the night so that the trap with the mouse were partly wet. This Microtus apparently prefers a very moist habitat and might even be partially aquatic. Along the bases of granite rock on N. facing wall of canyon, caught one shrew (Sorex sp.). On the S facing slope of canyon, two sprung traps showed a tail and a foot of a shrew. Many of the traps were apparently dragged away by the mice (shrews?). Caught one large ad. Peromyscus boylii (?) and 7 Peromyscus maniculatus (4 of which were immatures). One large Ambystoma tigrinum in Museum Special (later lost before preserved). Salamander taken on S facing slope at base of large granitic boulder, about 75 ft. above stream. (Jemez Cr.). Ground covered with fir needles. Observed the following birds around camp: Ruby-crowned Kinglet, Grey-headed Junco, Stellar Jay, Pine Siskin (very poor worn plumage -- no moult as yet), Mt. Chickadee, Pileolated Warbler, Chipping Sparrow, (Temp. of Chipping Sparrow, 5 sec. dead, at 10:25 A.M., 41.5°C). About 1/4 mi. upstream from camp, discovered a beaver dam made of 5 inch logs (diam.) showing beaver-cut ends, stones, coffee & beer can. Some grass & roots also incorporated. Dam wall about 8" thick.

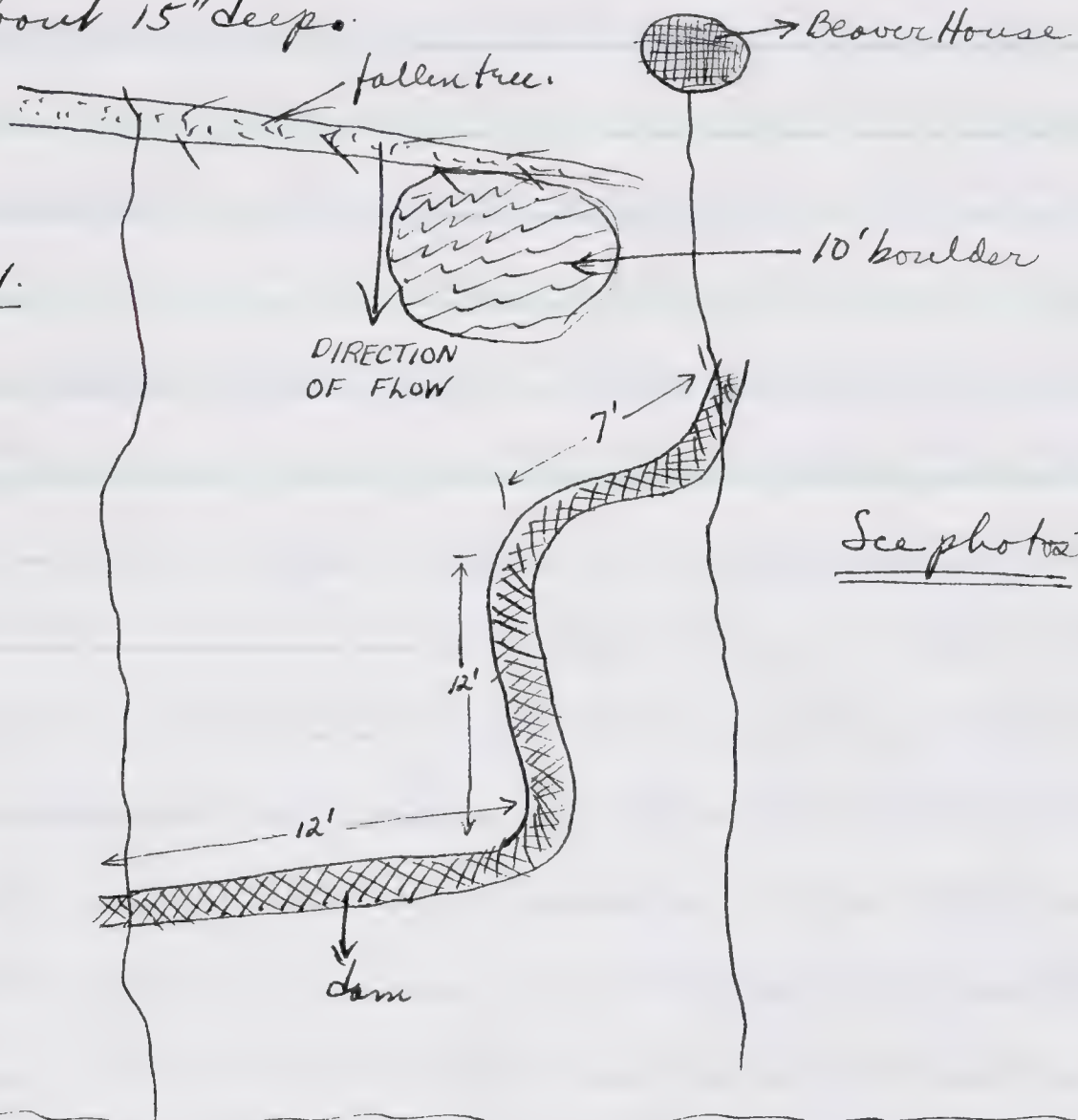
Bowman
1952.

Journal.

29.

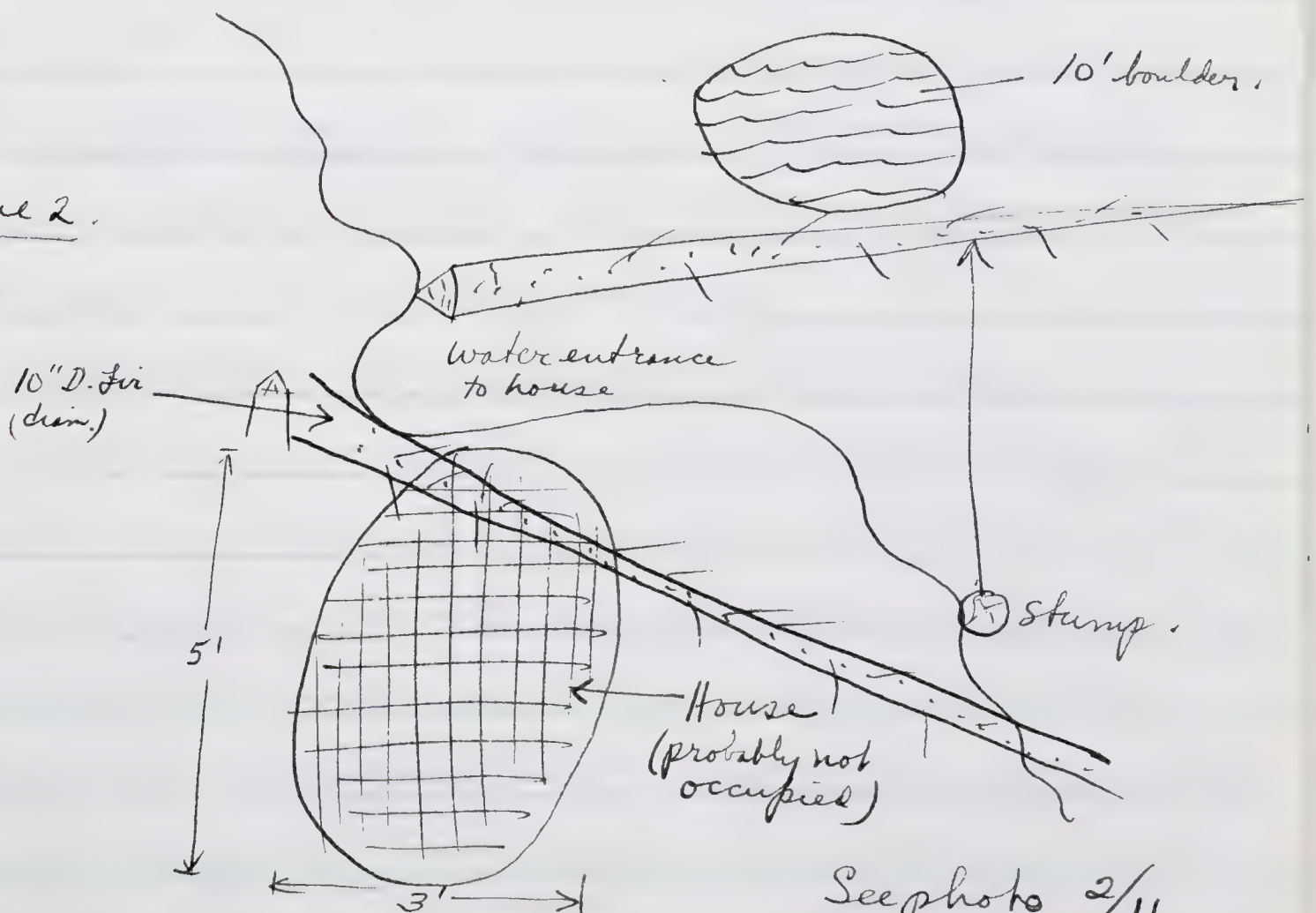
Aug. 27. Termez Cr., 6 mi. NW Bland, 8500 ft., Sandoval Co., New Mex.
at the top. The deepest water immediately behind dam
was about 15" deep.

Scene 1.



See photo # 2/10 + 2/11.

Scene 2.



See photo 2/11

Bowman
1952.

30.

Journal

Aug. 27. Jamez Cr., 6 mi. NW Bland, 8500 ft., Sandoval Co., New Mex.
Found a second beaver house about 100 yds. upstream from previously described house. This "house" was about 6' high made of logs & twigs. The largest log measured an estimated 12" across. The house was built between two large rocks. Saw fresh beaver tracks nearby suggesting activity around this house. See photo 2/12 for unique beaver cutting of a Douglas fir prepared for felling in a narrow area between two rocks. Shot one House Wren at 12: noon. Temp after 2 sec. dead was 41.0°C. Saw 2 other House Wrens along creek. At 6:40 P.M. set out 25 Museum specials along S-facing slope of Jamez Creek at base of rocks & Douglas firs. -- none along stream bottom. At 7:15 A.M. saw 1 Small bat (sp?) fly low over camp. ~~At~~ No owls would answer calling this p.m. Valley floor here has a good humous soil with many pocket gopher diggings. JCR. trapped 3. Chipmunks and Golden-mantled ground squirrels seen in rocky areas along stream.

Aug. 28/31. 6 mi. S Bernalillo, 5500 ft., Sandoval Co., New Mexico

The following is a brief survey of activities during the previous 3 days, as reviewed from notes taken in the field. Aug. 28 -- Jamez Cr. 6 mi. NW Bland, 8500 feet.
From 7-8 AM turned over decaying logs and bark in spruce-fir wooded slope S. of camp. No plethodontids found. Many ants, beetles, centipedes noted under them. Noted that the fir-spruce tree association gives way

Bowman
1952

31.

Journal.

Aug. 31.

6 mi. S. Bernalillo, 5500 ft., Sandoval Co., N.M. -- [See preceding p.]
to oak and yellow pine on the higher slopes. Apparently
we are noticing a local "inversion" of the life zones
possibly due to cold air drainage into the valley where
we are camped. Grey-backed Juncos, Mt. Chickadees and
House Wren observed in the spruce-fir association.
The ground is moist and there is considerable mossy
growth on soil. Yesterday (Aug 27) Ward C. Russell
captured 3 plethodontids here. Captured the
following in the 25 Museum Specials set out on a
steep S-facing slope of Jemez Cr.: 3 ad & 3 im. Peromyscus
sp. & One Lark sparrow shot by WCR. at camp.
[Temp. at 10:00 AM, drying was 41.4°C]. One turkey
Vulture noted at 2:00 P.M. While hiking upstream on
Jemez Cr. for a distance of approx. 1 mi. discovered
two more Beaver dams. -- one made of stones alone
piled about 1 ft high across stream, and a second
made of small logs and stones. Also discovered
another beaver house, apparently occupied (as
evidenced by the freshly ~~cut~~ matted grass immediately
at the entrance to house). Found the humerus
and tail vertebrae of a "young" (?) beaver near this
house. Captured 2, 2" long (body length less legs) Rana boylei & saw several large tailed & legged tadpoles
presumably of this species in Jemez Cr. Saw at
least 2 House Wrens along the creek. Was greatly
impressed by the active "bowing" action of the House
Wren -- alternating left with right legs -- "rapid peering"?

Bowman
1952

Journal.

32.

Aug. 31. 6 mi. S. Bernalillo, 5500 ft., Sandoval Co., N.M. -- [see p. 30]
One House Wren and an im. Junco were very tame while skinning. Both birds entered the log huts in which we were working. The Junco remained around camp continually, & was fed rice & pieces of bread, none of which it accepted. The bird was seen to take exceedingly small pieces of food.
Chickadee, Chipmunk, & Golden-mouthed Ground Squirrel were noted around camp. In the late afternoon captured 2 garter snakes along grassy-rocky borders to ~~the~~ Jemez Cr. Dogwood, Gooseberry, Snowberry, & Raspberry ^{Purple-flowering Raspberry & an umbellifer} are common along edge of stream. Stuart Landry captured 4 Horned Lizards about 200 ft. up from N. edge of Jemez Cr., below yellow Pines & oaks. During the early evening Peromyscus maniculatus were caught in "Museum Specials" set inside log shelter. Heavy rainfall during night of Aug. 28. On the morning of Aug. 29, S.O.W. reported 5+ Peromyscus maniculatus captured inside log shelter. Left our Jemez Cr. Camp at 10:00 A.M. & proceeded to Santa Fe via Bland. Passed by type locality for Stebbins & Reimer race of Plethodon neomexicanus ^(box elder here). In driving to lower elevations we noted a very deep granite-walled canyon & 6+ White-throated Swifts flying by at a great speed. Spent the remainder of the day in Santa Fe ~~area~~ --- opening day of the grand fiesta. Camped just north of Santa Fe in the pinons.

Bowman
1952

Journal.

33.

Aug. 31

6 mi. S. Bernalillo, 5500 ft., Sandoval Co., N.M. [See page 30]

^{Aug. 30}
Drove to Albuquerque from Santa Fe in morning and attended to matters concerning payment of repairs to $\frac{3}{4}$ Chev. panel truck. In afternoon made camp at our present location, viz. 6 mi. S. Bernalillo Co. N.M. in a Cottonwood Grove just east of Highway # 85 along the Rio Grande Valley. Set out 28 "Museum Specials" along fence line, about 20 ft. distant from an irrigation ditch. Cactus, & other desert scrub vegetation fairly dense. ^{Soil gravelly & sandy.} Observed one Kangaroo rat (?) at 6:35 P.M. (Sunset) run below vegetation. I may have flushed the animal from out of its resting place. The moon is now $\frac{3}{4}$ full. Set another 40 Museum Specials ~~along~~ the underneath the cottonwood trees where close vegetation cover is non-existent. Carried the line along the edge of the irrigation ditch for 6 traps. Used oatmeal. Soil very light dusty & clay-like when wet. There are numerous gnats & mosquitoes in the early evening. Cicadas commence to "sing" about 10 minutes after sundown & continue till almost dark. Grasshoppers are also abundant. Saw one nighthawk at dusk. Heard and saw a large bat fly around our camp after dark. W.C. Russell shot one Screech Owl in cottonwoods. Saw 2 Road Runners just east of camp. Bird in excellent plumage & ~~called~~ responded well to calling. Russell claimed this bird to be a male because of the pitch as compared to another screech owl in the same area. Upon seeing, it turned out to be the opposite sex as claimed on the basis of voice.

Bowman
1952.

Journal.

33

Aug. 31. 6 mi. S. Bernalillo, 5500 ft., Sandoval Co., N.H. (see page 30)

During afternoon of Aug. ³⁰~~29~~, we Russell drove to the Univ. of N.H. after leaving Terry Russell, Ste Landry & I in camp. He picked up our surplus equipment which had been stored there, & deposited them with us. He & Jerry plan to leave for Berkeley tomorrow AM in order to be back in time for the opening of deer season in California. Ste & I will take the bus into Albuquerque on Sept. 2. & pick up the repaired truck & O.P. Pearson.

Aug. 31 - Ward & Jerry Russell departed at 7:00 AM.

Caught 1 Onychomys. & one small Perognathus along fence line set. 5 other traps were trapped & one missing. Caught no mice in set under cottonwoods. Also caught one Scaphiopus in trap line along fence. There were many birds in cottonwoods in morning. Apparently, a migration of warblers. The Rio Grande valley should make an excellent pathway for migrating birds (a N-S direction at this locality). The following species were noted: Redstart Warbler, (the most abundant species today) Yellow Warbler, Grace Warbler, Solitary Vireo, Goldfinch (sp?), White-breasted Nuthatch (2), Hairy Woodpecker (2), ^{Sparrow Hawk} ~~Mourning Dove~~, Smelled one skunk. Blue-tailed Skunk observed in fair abundance. Very difficult to shoot with. 22 shot shells without injury. The screech owl shot by Russell last night contained many grasshoppers in its stomach. Shot another screech owl in cottonwoods by camp in evening. Damaged specimen so badly, it had to be discarded.

Bowman
1952.

Journal.

34.

Aug. 31. 6 mi. S. Bernalillo, 5500 ft., Sandoval Co., N. Mexico:
after sunset, Scaphiopus toads began to appear
everywhere. almost spontaneously. Blue Landry &
I collected 10+ around camp, hardly without effort.
Two very large ~~sp~~ animals were taken at the edge of
the irrigation ditch on sandy ^{gravelly} soil. One smaller
animal seen in the water. The following temperatures
were obtained:

<u>Species.</u>	<u>Temp.</u>	<u>Time</u>	<u>Conditions</u>
Pileolated Warbler	38.0°C	6:40 AM	dead 20 sec.
Yellow Warbler (♂)	41.1°C	7:06 AM	dying
Pileolated Warbler	40.6°C	8:25 AM	dying
Pileolated Warbler	40.2°C	8:30 AM	dead 20 sec.
Grace Warbler	41.0°C	8:45 AM	dead 10 sec.
Grace Warbler	40.5°C	9:10 AM	dead 2 sec.
Solitary Vireo.	41.8°C	9:20 AM	alive.

Set out 35 Museum Specials along wash east of camp.
I scraped the gravel wash smooth before placing trap
in order to detect tracks. Traps placed at approx. 10 ft
intervals regardless of whether or not a suitable place
existed.

Sept. 1. 6 mi. S Bernalillo, 5500 ft., Sandoval Co., New Mexico.

Captured 1 Perognathus sp and one tail of latter, 2 others snopped
and one dragged trap. Had disturbed the soil before setting each
trap & baited with oatmeal. Many tracks around traps were
though not sprung. Heavy migration of warblers during
morning (one flock of 7 seen to alight in cottonwood grove
by camp at 7:00 AM). From 2:30 AM. to 6:00 AM hiked east of

Bowman
1952

35.

Journal.

Sept. 1.

6 mi. S. Bernalillo, 5500 ft., Sandoval Co., New Mexico

of camp beside Rio Grande along wash toward the Sandia Mts. for about $1\frac{1}{2}$ miles. Observed the following: 1 Scrub Jay in an isolated Pinon tree, 30+ Horned Larks in a large flock foraging on the ground - collected one: temp. was 41.8°C at 8:05 AM and bird alive, 1 Cottontail, 1 Jack Rabbit, 1 Throasher sp?, 1 shrike, 2 Sparrow Hawks, numerous blue-tailed skinks (shot 2 but very badly macerated by the pellets).

From our tent heard scaled Quail calling. Sounded very much like the "yippling" of a dog. Mourning doves were seen frequently, + many took refuge in the cottonwoods to escape the hunters, this the opening day of the dove season. At sundown (6:30 pm) set out approx. 30 Mus specials in a small wash east of camp. Used peanut-butter bait. While returning from the set in the light of an almost full moon, ^(7:15 PM) saw one Perognathus flavus hop along edge of wash in the shadow of some Chrysothamnus bushes. Could hear ~~the~~ the mouse moving in amongst the bushes. Later ^(10:15) trapped this animal in a trap placed in the shade off to the side from the moonlight. Scaphiopus were seen in good numbers again this evening. They seem to appear shortly after complete darkness has fallen + then are to be found near the irrigation ditches, on sandy areas amongst vegetation, + in open unsheltered spots. When picked up they usually struggle little + either urinate and inflate their bodies. When in bed by 10:45 PM. called in a screech owl, which could be seen

Bowman
1982.

Journal.

36.

Sept. 1.

6 mi. S. Bernalillo, 5500 ft., Sandoval Co., New Mexico
in the moonlight to fly back & forth under the cottonwoods for a period of approx. $\frac{1}{2}$ hr. Stomach analysis of the owl shot on Aug. 31, revealed exclusively grasshoppers. No mice were caught below the area being hunted by the owl.

Sept. 2.

Santa Fe, 7000 ft., Santa Fe Co., New Mexico

Caught one Perognathus flavus in set of 30 Museum Specials. Many Warblers migrating through cottonwoods this morning. S. O. Landry shot the following species: Yellow Warbler, Townsend Warbler, & Pileolated Warbler. At 10:00 A.M. I "flogged" the bus to Albuquerque where I met Dr. O. P. Pearson at the Railroad Station. After cashing Dr. A. H. Miller's cheque for \$700.00 (\$2.35 telegraph bill) picked up truck & proceeded back to Bernalillo campsite where we ~~loaded~~ raised camp & the 3 of us drove to Santa Fe. [Insert. -- visited Mr. Adrian Bierrell, former MUZ student & now regional director of the Soil Conservation Service]. Camped 1 mile N. of Santa Fe. amongst Pinons. Heard one Horned Owl "hooting" about 8:30 p.m. Full moon tonight. S. O. Landry set out several Museum Specials below Pinons on very gravelly - sandy soil.

Sept. 3.

6 mi. E. Truchas, 10,000 ft., ^{Rio Arriba} ~~Santa Fe~~ Co., New Mexico

Left Santa Fe after 10:00 AM, having conferred with U.S. Park Service & U.S. Nat. Forest Service officials about a suitable campsite high in the Sangre de Cristo Mts. Saw a flock of 30+ Pinon Jays at campsite 1 mile N. of Santa Fe in a.m. and 2 Ravens. S. O. Landry caught Peromyscus

Boroman
1952.


Journal.

37.

Sept. 3

^{Rio Arriba}
6 mi. E. Truchas, 10,000 ft., ~~Faas~~ Co., New Mexico.

treei and Peromyscus maniculatus beneath Pinons.
~~also~~ one ad. and one im. of each. From our campsite we can view Truchas Peak, approx. 13,315 ft. high, probably the highest point in New Mexico. The peak is above tree line, but only a relatively narrow band. Along the roadway leading to our campsite, which follows Rio Quemado for all of the way, we observed alder, Willow, aspen, yellow pine, Douglas fir, & Blue spruce. The yellow pine disappears on the valley or canyon walls at about 9800 ft. At our campsite, the Douglas fir, & aspen are the dominant tree species. Some 5 needled Western white pine were seen. Where areas have been disturbed through clearing or burning, there is aspen. There are beautiful mature groves, with trees over 50 ft. tall. (see photo 3/4). Along the streams, aspen & alder are present. The alder is a moderately sized tree, up to 25 ft tall & 8 inches in diameter (the largest representative seen). By sunset time, we could feel the effects of cold air drainage into our valley camp. By 8:15 P.M. temp. was 47° F. At sundown, saw several small bats flying over camp. O. & Benson shot one — this Myotis volans. [Insert. — I shot one Sciurus aberti in yellow pine forest. 1 mile S. Borego, Co., New Mexico]. Heard & saw one Tanager in aspen tree.



Bowman
1952.

Journal

38.

Sept. 4

6 mi. E. Truchas, 10,000 ft., Rio Arriba Co., New Mexico.

Temp. at 5:45 AM (MST) in shade (at sunrise) 41.0°F. Picked up 40 Museum specials set along stream, under alder and aspen, & in open field under fir & aspen, & along marshy meadow along felled aspen & living fir. One Sorex sp. taken 2 ft. from stream at base of aspen. One Microtus sp. taken at base of alder in wet meadow. One Chipmunk snapped at base of rail fence. From 6:50 AM to 9:30 AM. hiked along streamside & along crests of surrounding slopes, in a circumference around camp of about 2 miles. Observed the following: Steller Jay, Ruby-crowned Kinglet (1♂), Mt. Chickadee, Blue Warbler, Pileolated Warbler, Townsend Warbler, House Wren, Red-shafted Flicker, Raven, Clark Nutcracker, 1 White-breasted Nuthatch, many gopher diggings, Chipmunk (numerous) Golden-mantled Ground Squirrel, Canada Jay. Warblers were most abundant in aspen groves & also noted in alder thickets. Could not detect any pronounced N→S or down mt. slope (E→W) migration. Chickadees were particularly abundant in one locality of Douglas Fir, where 3 were seen "scolding" at one time. The following temperatures were obtained:

<u>Species</u>	<u>Temp.</u>	<u>Time</u>	<u>Conditions</u>
House Wren	39.4°C	7:50 AM.	dead 15 sec.
Townsend Warbler	40.5°C	8:25 AM	dead 10 sec.
Pileolated Warbler	41.2°C	8:30 AM	dead 3 sec.

Saw one Chipmunk 15 ft. high in a Douglas Fir tree.

Bowman
1952

Journal.

39.

Sept. 4

6 mi. E. Truchas, 10,000 ft., Rio Arriba Co., New Mexico

In the small valley immediately below camp there is a field of wheat. Some vegetables, radish & turnip are also cultivated. On the flat above camp there is a field of oats & a legume, & a field of potatoes. So far we have seen no sign of humans. At sundown (6:25 PM) we began seeing bats (presumably Myotis - one taken on Sept. 3). They are fast fliers, frequently flying in a straight line. They are "feeding" over an open valley area W of camp and over the stream to the south of camp, where alders & firs have been recently felled.

Dr. O. P. Pearson shot 3, retrieved 2. The temperature is falling rapidly at this writing. The cold air forms a steady stream as it pours down the valley in which we are camped. Frost was detected on the ground this morning. Some of the aspens show a slight lightening in color. One one of the aspen covered slopes, observed a vigorous young growth of 10-15 ft. firs coming in under the aspen. Many of the aspen measure 20" across at their bases. Douglas Fir are about 1 1/2 feet across, although many of those cut in the area are rotten at the core. This area resembles the 11.5 miles NE of Chama campsite, in that all the vegetation is lush. The undercover is much denser here, however and all the trees seem to be of larger stature.

Some daisy, paintbrush, & clover are in bloom. in the more shaded areas.

Bowman
1952.

Journal.

40.

Sept. 4. 6 mi. E. Truchas, 10,000 ft., Rio Arriba Co., New Mexico.

Set out Museum Specials along stream (aspen & alder) and in open meadow alongside felled aspen & live fir. Using chewed oatmeal bait. Dr. O.P. Pearson left his traps setting all day today & caught several Microtus. He also trapped several pocket gophers. Stuart Landry & Pearson both trapped Red-backed mice last evening.

Sept. 5. 6 mi. E. Truchas, 10,000 ft., Rio Arriba Co., New Mexico.

Picked-up traps at 6:40 AM. Caught 5 mice, with 3 other traps sprung: 1 Peromyscus intermedius (?) taken along edge of fallen aspen, where soil is dampish, but with no standing water [see photo 3/5]; 1 Microtus longicaudus at base of Douglas Fir tree; 3 Peromyscus maniculatus (1 im. & 2 sub-adults) in various open areas & at base of stump. From 7:00 AM to 9:00 AM noted the following animals while hiking downhill from camp along roadway for 1/2 mile (to an elevation of an estimated 9500 ft. - Chickadee (mt.), Stellar Jay (shot one), Pileolated Warbler, Ruby-crowned Kinglet, House Wren, Conceps Junco, Woodpecker (sp?), Fresh gopher diggings in open grassy meadow, Chickadee (shot one), Chipmunk, observed a Chickadee cutting off the cones of a Douglas Fir. The animal would ~~actually~~ seem to throw the cone out a sufficient distance to clear the branches below. I watched the squirrel chew off 10+ cones before proceeding to the next tree. One Stellar Jay shot, was seen feeding in a fir tree. When it detected me, it became very quiet & motionless.

Bowman
1952.

Journal.

41.

Sept. 5. 6 mi. E. Truchas, 10,000 ft. Rio Arriba Co., New Mexico.

The Jay was in new plumage (ad ♂). The juncos are now in fresh plumage & fairly common in newly cleared areas of Douglas Fir & aspen. The following temperatures were taken:

<u>Species</u>	<u>Temp.</u>	<u>Time</u>	<u>Conditions</u>
Pileolated Warbler.	41.3°C	7:30 AM.	Dead 2 sec. Air Temp. 1 ft. from ground in shade was 8.5°C
Stellar Jay.	40.8°C	8:00 AM	Dead 30 sec.
Chickadee	40.4°C	8:20 AM.	alive.
Campeps Junco.	41.5°C	8:30 AM.	Dead 20 sec.

During the day caught 2 chipmunks in the trapline set on evening of Sept. 4. During the day heard one Canada Jay at camp. At dusk observed 1 Nighthawk and 5+ Ravens flying northward, high overhead. Bats (presumably *Myotis* sp.) were flying over meadow below camp. None were shot. Temp. in camp at 8:30 P.M. - 51°F. Slight showers during mid-afternoon. Cloudiness dissipated by 8:30 P.M.

Sept. 6. One Microtus longicaudus and one Peromyscus maniculatus were taken in the same trapline set out on Sept. 4. Lins taken up this morning. Temp. at 6:45 AM was 43°F. --- sun had just reached the tops of the trees in our valley.

Rearson caught the first Zapus for this locality; all in very wet meadow. From 6:50 to 9:45 AM observed the following in the near vicinity of camp: 3 Robins, numerous Campeps Juncos (some incompletely moulted as yet), Mt. Chickadee, Red-shafted Flicker, ♀ Williamson Sapsucker, ♂ Red-naped

Bowman
1952

Journal

42.

Sept. 6 6 mi. E Truchas, 10,000 ft., Rio Arriba Co., New Mexico

Sapsucker, Stellar Jay, 3 House Wrens, 1 Golden-mantled ground squirrel, Chipmunk (very ~~at~~ numerous); Shot one ad ♀ (with 5 embryos) Microtus longicaudus in weeds at 7:00 AM, while it was feeding; Pileolated Warbler (still the most conspicuous warbler & possibly the most numerous), Audubon Warbler. The following temperatures were obtained:

<u>Species</u>	<u>Temp.</u>	<u>Time</u>	<u>Conditions</u>
<u>Corvus Junco</u>	42.0°C	7:15 AM.	dead 2 sec.
" "	42.3°C	7:20 AM.	dead 2 sec. (molting)
" "	41.9°C	8:07 AM.	dead 20 sec.
" "	42.4°C	9:10 AM.	alive (molting)
<u>Audubon Warbler</u>	41.7°C	8:25 AM.	dead 5 sec.
<u>♀ Williamson Sapsucker</u>	41.9°C	8:40 AM	alive.
<u>♂ Red-naped Sapsucker</u>	42.0°C	9:20 AM	dead 2 sec.

No air temperatures have been taken for the reason that many of the birds are shot high in the trees in the sunshine while I am usually located at ground-level in the shade.

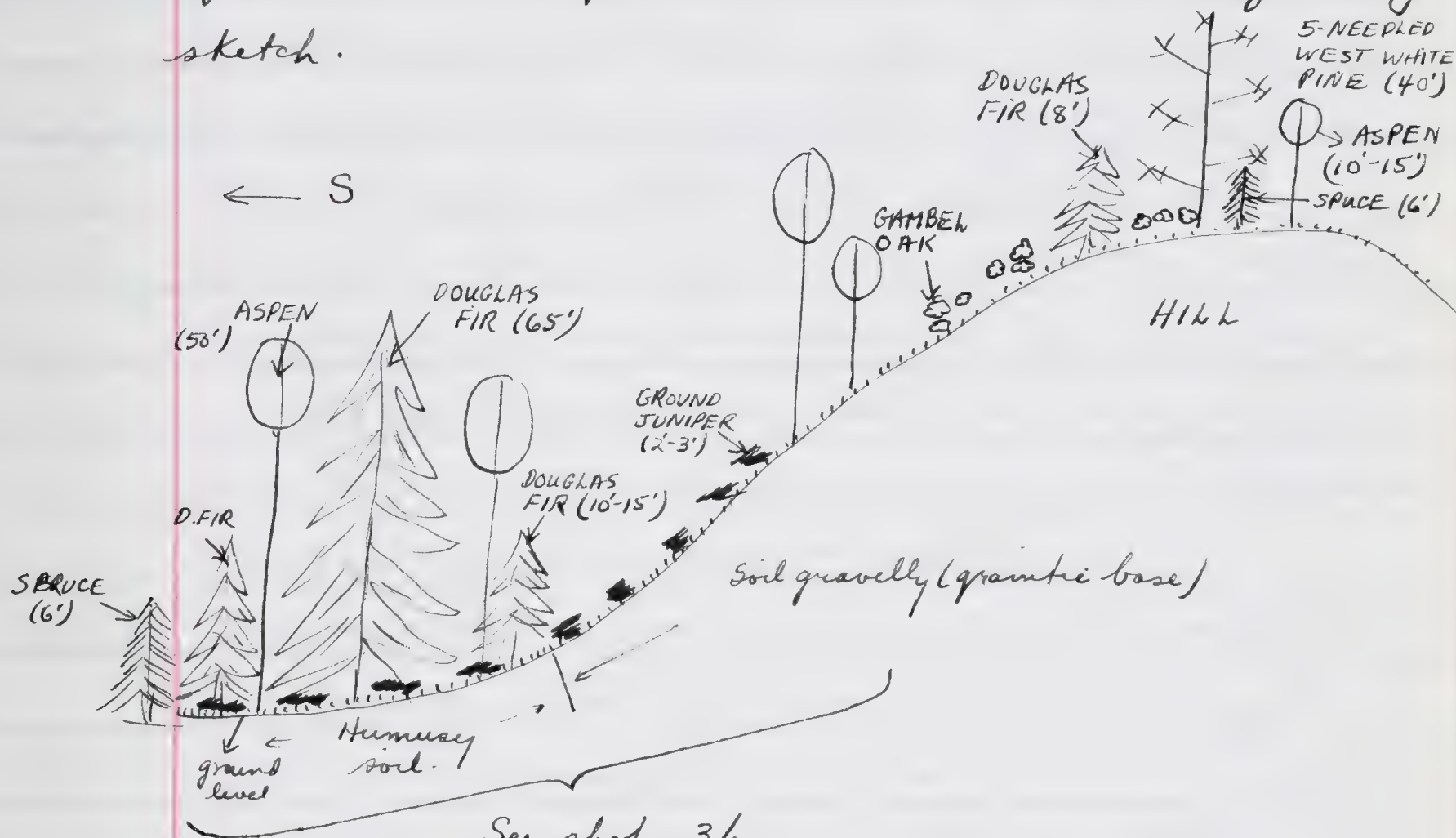
While taking the temperature of the ♀ Williamson Sapsucker an hypoboscid fly was seen to fly out from under the feathers. The edge of the mixed wheat-barley-pea field along gravel roadway is a favorite location for Pileolated Warbler, House Wren, & Junco. These crops are far from ripe. The peas are in blossom, & the wheat & barley have green-heads. During the afternoon observed 3 horses & 2 cows grazing in the woods nearby. Photographed the plant cover on a south-facing slope of a canyon to show the nature of plant

Bourman
1952.

Journal

43.

Sept. 6. 6 mi. E Trenchas, 10,000 ft., Rio Arriba Co., New Mexico
succession here. The photograph includes only a portion
of the situation depicted in cross-section in the following
sketch.



See photo 3/6
covering this
section only

Observed a cache of a Chickaree (?) below a Douglas Fir tree. Small holes were dug in the needle layer, + fresh cones buried in these. The poplar appears to be a recovery stage from burning in at least one large area studied. Charred logs are everywhere apparent, + ~~dead~~ logs, almost completely decayed. From what I can view from the sole vantage point here, at least 40% of the mountain slopes nearly are aspen covered. At dusk, saw numerous bats flying overhead. There seemed to be at least 2 sizes present. Stuart Landry shot one Myotis sp. Saw a group of 4 Nighthawks + 2 Ravens flying NE, against a very heavy E wind. S.O. Landry

Bowman
1952

Journal

44.

Sept. 6.

6 mi. E. Truchas, 10,000 ft., Rio Arriba Co., New Mexico.

reported hearing a Horned Owl "hoot" once up canyon from camp at about 7:30 P.M. Dr. O.P. Pearson left our camp at about 10:30 AM today, with 2 sleeping bags, food & mouse traps, headed for Truchas Pk. He said he would report back to camp tomorrow noon.

The weather has been clear & warm all the time we have been here at our Truchas campsite. Some cumulous cloudiness has appeared yesterday & today, with just a few sprinkles of rain on a couple of occasions. This evening is our first touch of wind.

Sept. 7

Temp. at 6:45 AM. was 38°C. This was the coldest night we have had so far. From 7:30 AM to 1:30 P.M. Hiked along stream just north of our campsite, where a slight trail was apparent -- observed droppings of horse & cow. Hiked to approximately the 11,500 ft. level (estimated) passing through the Canadian zone (D. fir & spruce) & well into the Hudsonian zone (fir-sp? and spruce). The dominant bird life in both these zones was ^{caniceps} Junco, Chickadee, & a few golden-crowned Kinglets. Clark's Nutcracker was heard only in Hudsonian zone, but Chickadee we seen & heard abundantly in both zones. In the highest elevations the soil was very gravelly & granitic. In the lowest Canadian zone near camp saw the following: 1 Red-tailed Hawk, 1 Cooper Hawk & 1 Goshawk, Caniceps Junco, 1 House Wren, 4 Pygmy Nuthatch, 1 White-breasted Nuthatch, 3 Steller Jays, Porcupine scratching on a young yellow pine tree, 1 Broad-tailed Hummingbird. Saw no

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1952

Journal.

45.

Sept. 7. 6 mi. E Truchas, 10,000 ft., Rio Arriba Co., New Mexico.
warblers in the aspen stands at 11,500 ft. Shot several caniceps juncos, which were in the middle of the molt. The brownish feathers on the shoulders & back were of two shades of brown, probably suggesting the old & new feathers were present. One junco was still in fledgling plumage, & the bill still showed obvious signs of immaturity, i.e. yellow at the corners, & the bill did not have its adult shape. ^{It also harbored 1 Hypoboscid fly.} Bluebells & Indian paintbrush were in bloom at higher elevations. The alder, so common along riparian situations at our camp, disappears at about 200 feet above our camp elevation of 10,000 ft. Mt. Mahogany is quite abundant at higher elevations. The poplars (aspens) show obvious signs of changing color due to the cold weather at night time. The following temperatures were obtained:

<u>Species</u>	<u>Temp.</u>	<u>Time</u>	<u>Conditions</u>
<u>Caniceps Junco</u>	42.0°C	9:20 AM.	Dead 3 sec.
" "	42.4°C	11:45 AM.	Dead 10 sec.

Many bats flying around camp this evening. None shot. We plan to move camp tomorrow morning.

Sept. 8 16 mi. NE Pojoaque, 8750 ft., Santa Fe Co., New Mexico

Temp. at our Truchas campsite at 9:05 AM (MST) on evening of Sept. 7 was 47°F. - Clear & cloudless. At 5:55 AM Sept. 8 at Truchas camp was 38°F. Frost was apparent on the meadow. From 7:25-10:20 AM hiked around immediate vicinity of camp & observed the following animals:

Sept. 8. 16 mi. NE Pojoaque, 8750 ft., Santa Fe Co., New Mexico.

Pileolated Warbler, House Wren, mt. Chickadee, Robin,
Hairy Woodpecker, ^{Golden-crowned Kinglet} Plumbagus Vireo, ^{came up} Steller Jay, Junco
Chickadee, Golden-mantled Ground Squirrel, Chipmunk
Ground Squirrel was extremely fat. Junco in large
flocks (20+) including juveniles + adults. Chickadees
seemed more common around our campsite than
in previous 4 days (colder weather?). Warblers were
not as abundant as in previous days. House Wrens
were still ubiquitous around riparian habitat +
rail fences + brush piles. Their habitat preferences
seemed to resemble those of the Song Sparrow which
species was absent from this area. Solitary (Plumbagus)
Vireo taken in riparian (alder) habitat. No other
members of this species detected. This is the only
vireo taken at this locality. The following
temperatures were taken:

<u>Species</u>	<u>Temp.</u>	<u>Time</u>	<u>Conditions</u>
<u>Pileolated Warbler</u>	40.4°C	7:30 AM	Dead 15 sec.
<u>Hairy Woodpecker</u>	42.3°C	10:05 AM.	Dead 5 sec.

Broke camp at 2:30 PM and proceeded to Truchas.
3 mi. E of Truchas at 3:00 PM saw a flock of 80+ Bond-
Tailed Pigeons in a grain field (harvested--only
stubble remaining) with about 20 sitting in neighbor-
ing yellow pine trees. Black-billed Magpies (3+)
were seen in some general area, around human habit-
ations. Picked up mail + supplies at Cordova and
the proceeded along Forest Service Road, SE of Cordova

Cowman
1952.

47.

Journal

- Sept. 8 16 mi. NE Pojoaque, ~~8500~~ 8750 ft., Santa Fe Co., New Mexico.
Dove present campsite, in the yellow pines. Description
of area to follow. Several bats seen by camp, of
2 sizes at least. Dr. D. P. Pearson shot 3 -- Myotis sp
and Eptesicus fuscus. Set out Museum
Specials along grassland meadow just N. of
camp. Placed along rail fence posts, oak, in
grass (moist area), under willow, and beside
standing water. Junco, Hairy Woodpecker, and
Steller Jay noted while setting out traps at 5:15 PM.
High winds are active on the nearby crests, although
our campsite in a valley is relatively quiet.
Temperature at 9:00 P.M., 57.5°F. Clear, cloudless sky.
- Sept. 9. Arose at 6:45 AM. Captured 10 Peromyscus maniculatus, 1
Microtus longicaudus and 1 Chipmunk in line of 31 traps.
Observed the following during the morning - 7:15 - 10:00 AM.
Spotted Towhee, Steller Jay, Gray-headed Junco, Pygmy Nuthatch,
Hermit Thrush, Hairy Woodpecker, Warbling Vireo,
Pileolated Warbler, Raven, Western Flycatcher, White-
breasted Nuthatch, Golden-crowned Kinglet, House Wren,
Rabbit (sp? - Cottontail or Snowshoe), Chickadee, Chipmunk,
Pocket Gopher diggings. The country traversed is all
yellow pine with some Douglas Fir, spruce sp?, and
aspen in cleared or disturbed areas. There is an understory
of gambel oak and some Juniperus siberica. There
were numerous warblers migrating through pines & spruces
& firs & aspens. Hermit Thrushes were quite common.
The pygmy nuthatches, although seen frequently, were not

Bowman
1952

Journal.

48.

Sept. 9. 16 mi. NE Pajarito, 8750 ft., Santa Fe Co., New Mexico.

so ubiquitous and abundant as at our Tres Piedras campsite. Checked trap-line at 4:00 PM and captured 4 Chipmunks and one House Wren. During the morning two chipmunks had to be shot because they were prone to tear the cotton from our specimens. One animal ruined one of our Peromyscus specimens, which was previously damaged accidentally. The following temp's. were taken -

<u>Species</u>	<u>Temp.</u>	<u>Time</u>	<u>Conditions</u>
<u>Hermit Thrush</u>	42.5°C	7:30 AM.	dead 10 sec.
" "	42.5°C	7:45 AM.	dead 3 sec.
" "	43.0°C	8:30 AM.	dead 2 sec.
<u>Hairy Woodpecker</u>	41.7°C	8:07 AM	alive.
<u>Warbling Vireo</u>	40.3°C	8:55 AM.	alive.

After sundown shot at bats north of camp, in open grassland area. Heard one Poor Will call for about 30 seconds from a yellow pine covered hillside near the meadow.

Sept. 10. Frost last night in meadow. Captured 7 Peromyscus maniculatus in same trapline. Baited up line this morning. During

the morning around camp observed the following:

Grey-headed Junco, Ruby-crowned Kinglet, Chickadee (mt.)

Pygmy Nuthatch, Hairy Woodpecker, ^{Ps. Flicker} Hermit Thrush,

Stellar Jay, Raven, ^{Pileolated} ~~Orange-crowned~~ Warbler, Townsend

Warbler, Chickadee, and Chipmunk. In the afternoon

I took the truck & drove downhill back to in the direction of Cordova, stopping in the pure yellow pine -

Bowman
1952

Journal

49.

Sept. 10 16 mi. NE Pojoaque, 8750 ft., Santa Fe Co., New Mexico

Gambel Oak association (see photo 4/2). Commencing at 1:00 P.M. observed 3 "waves" of bird flocks moving through the pines. These flocks consist of Mt. Chickadees, Pygmy Nuthatches, Audubon Warblers, ^{Pileolated Warblers} and Brown Creepers. The direction of their movement was generally downhill along stream course canyons. In the same area also observed Raven, Steller Jay, Red-tailed Hawk, Sparrow Hawk. Watched the Pygmy Nuthatches occasionally feed on the ground. The Brown Creepers were exceedingly quiet, and always would "work" on the opposite side of the tree to where I was located. The birds were difficult to locate on the tree, and even though fired at once (a miss) they would remain on the same tree, apparently little disturbed. Saw at least 5 Creepers. The Pileolated Warblers were always to be found singly in the low scrubby Gambel Oak, and were rather difficult to approach. The following temperatures were taken during the day:

<u>Species</u>	<u>Temp</u>	<u>Time</u>	<u>Conditions</u>
<u>Caniceps junco</u> *	41.8° C	8:15 AM	alive
<u>Ruby-crowned Kinglet</u> **	39.5° C	8:25 AM	alive
<u>Brown Creeper</u>	41.6° C	1:45 PM	dead 15 sec.

* Junco was imm. + molting. One hypoboscid fly flew from feather.

** Kinglet was in full song.

There were a few light rain showers in the afternoon, but clearing by sundown. Did not observe bats in the evening.

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1952.

Journal.

50.

Sept. 10. 16 mi. NE Popoague, 8750 ft. Santa Fe Co., New Mexico.

Set out 31 Museum specials along the bottom of a grassy wash. Cover of willow, fir, and Douglas Fir. Used oatmeal bait.

Sept. 11. Caught 7 im. Peromyscus maniculatus in trap line.

During the morning (7:30 - 11:30) hiked N of camp along a yellow pine covered slope (S facing) and then along a fir-spruce-poplar-alder covered slope (N facing) with an intermittent stream in the valley. Observed the following animals: pure flocks of Pygmy Nuthatches in yellow pine, Hermit (?) Thrushes (ad. & im.), Hairy Woodpecker, Caniceps junco (ad. & im. in flocks of 30+), Steller Jay, solitary Pileolated Warblers, Audubon Warblers, (oftimes with Pygmy Nuthatch flocks), one Band-tailed Pigeon flew swiftly over yellow pines heading south, Mt. Chickadees, Raven, House Wren, Red-shafted Flicker, Chickaree, Chipmunk, Pocket Gopher diggings. Dr. O. P. Pearson shot an immature ^(?) Albert Squirrel in yellow pine today. The following temperatures were obtained:

<u>Species</u>	<u>Temp.</u>	<u>Time</u>	<u>Conditions</u>
<u>Caniceps junco</u>	41.7°C	9:10 AM	Dead 15 sec.
" "	42.3°C	10:25 AM	Dead 2 sec.
" "	42.1°C	11:25 AM	alive
<u>Chickaree</u>	40.6°C	10:05 AM	Dead 2 sec.

Flocks of warblers were seen less commonly today. Only a few (2-5) birds (sp?) seen in an aspen grove early this morning. All other birds were in solitary, or mixed with Pygmy Nuthatch flocks. Trapline as of Sept. 10.

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1952

Journal.

51.

Sept. 12. 16 mi. NE. Popoague, 8750 ft., Santa Fe Co., New Mexico.

Observed the following in the immediate vicinity of camp today. Robin, Red-naped Sapsucker, Williamson Sapsucker, Gray-headed Junco, Wm. Chickadee, Brown Creeper, and Pygmy Nuthatch. ~~Very heavy rain & hail last evening.~~

In the 31 museum specials captured 3 Peromyscus maniculatus, 1 shrew, and 1 Junco caniceps and 1 House Wren. Dr. O. P. Pearson trapped a reddish-colored Peromyscus maniculatus, & 1 Woodrat, & 1 Cottontail.

The following temperatures were taken:

<u>Species</u>	<u>Temp.</u>	<u>Time</u>	<u>Conditions</u>
Brown Creeper	40.6°C	9:10 AM	Dead 2 sec.
Wm. Sapsucker	42.4°C	9:25 AM.	Dead 5 sec.
Red-naped Sapsucker	41.3°C	8:40 AM	Dead 2 sec.

Sept. 13 Very heavy rain, hail, & lightning storm last evening. Caught 1 im. Peromyscus maniculatus in trapline. Lifted line. Very cold in AM. Water frozen on dishesware. Temp. at 6:20 AM was 34°F -- clear & still.

Left camp for Santa Fe at 9:00 AM. Lunch in Albuquerque. Arrived at our new location for Zapus, at 4:30 p.m.

Sept. 13. 1 mi. S. Bernardo, 5100 ft., Socorro Co., New Mexico

Adrey Borrell permitted us to stay in his duck-shooting house while camped here. While setting out 37 Museum specials along grassy, damp areas (see photo 4/5) noted the following birds: Killdeer, Yellowlegs (7?), Nighthawk (2), Red-wing Blackbirds (large flocks - 30+), shrike, 3 American Egrets, 1 Great Blue Heron, Mourning Dove, Sparrow Hawk, Short-shinned Hawk

Bowman
1952.

Journal

52.

Sept. 13 1 mi. S Bernardo, 5100 ft., Socorro Co., New Mexico
and 1 Garter Snake (collected). We are situated in the
lower Sonoran life zone (mesquite ("tamarack") desert
willow). Two bats were flying around camp at
sundown (O.P. Pearson shot one - a small grey Myotis.)
During the evening Stuart Landry and I "started" 3
Screech Owls along river side. They all had a very
unusual introductory whistle & clucking, which made
both of us think of heron "cluckings". The song ended
with the familiar "tull". Heard Horned Owl in the
distance, twice. Stuart Landry & I collected 2
species of frog found in temporary pools of muddy
shallow water. Eye shine from both species --- see
catalogue. Typical habitat shown in photo 4/4.
'Coon tracks, & possibly mink, seen in mud along
edge of Rio Grande.

Sept. 14. Arose at 5:40 AM. Very cool. Frost on grass by river. Caught
one Sigmodon hispidus in trap placed at edge of Juncus
in grass. (see photo 4/5). The following birds were
noted around river bottom amongst mesquite etc. -
Killdeer, Greater Yellow-legs? ^{Turkey Vulture.} flock of ducks (Mallard-like),
Mourning Dove, Shrike, Red-wing Blackbird, Lark
Sparrows, Deck Thrush, Tolmie Warbler, in Orange-crown
Warbler, Brewer Sparrow, Spotted Towhee, Western
Wood Pewee, Cooper Hawk. At 5:00 pm. 6 American Egrets
flew over. Picked up 3 Scaphiopus sp. at 5:30 pm hopping
toward grassy borders of river. -- Also caught one Rana sp.
Several Nighthawks appeared at dusk. Barn Swallow

Bowman
1952

53.

Journal

Sept. 14. 1 mi. S Bernardo, 5100 ft., Socorro Co., New Mexico.

flying around buildings in camp. Bats (sp.?) appeared about 15 min. after sundown. Strong SE wind blowing this evening. Saw a flock of 17 terns(?) flying southward along river, "bucking" this head wind. For this reason, I am not certain these birds were not nighthawks. It was too dark + birds were too high up. Nighthawks were flying very close to the ground, apparently because of the strong wind. One Cooper Hawk seen overhead at dusk as well as a flock of small ducks (9), possibly Teal. After dark Stuart Hardy and I captured approx 7 Rana (2 sp.) in mud-hole (photo 4/4) using flashlight ship boots (for mud). Good eye shine from both species. Saw a 3 ft. long garter snake in the water. Many small fingerling fish (sp.?) in some water (mud) hole. Slight eye-shine from snake. Because of wind, no owl calling tonight. Left my set of 37 Museum Specials set. Anxious to catch Zapus. The following bird temps. were obtained this morning:

<u>Species</u>	<u>Temp.</u>	<u>Time</u>	<u>Conditions</u>
Lock Sparrow	42.7°C	8:30 AM.	alive
Tolmie Warbler	42.0°C	8:40 AM	Dead 15 sec.
Brewer Sparrow	43.9°C	8:55 AM.	alive panting.
Imm. Orange-crowned Warbler	40.8°C	9:05 AM.	Dead 2 sec.
West. Wood Pewee.	42.5°C	9:30 AM	alive.

Bowman
1952.

54.

Journal.

Sept. 15. 1 mi. S. Bernardo, 5100 ft., Socorro Co., New Mexico
Caught 1 Peromyscus, 1 House Mouse & 1 Reithrodontomys
reus Hopline.
Observed the following birds from 6-7 AM. Belted
Kingfisher, Greater Yellowlegs, Killdeer, American
Egret, Merganser sp.?, Great Blue Heron, and
White Pelican. Broke camp at 9:00 AM & proceeded
in direction of Berkeley, California.

